June, 1957

SOAP and CHEMICAL SPECIALTIES

In this issue...

aterless hand cleaners—
wer types expand market

* * * *

erosols thru chemistry"
eme ups loader's sales

* * * *

pellents newest tool in
dent control near food

* * * *

ueeze bottle output up:
0 million units a year



New "Golden Dial" soap of Armour & Co. combines new gold color and wrapper to match, plus new deodorant ingredient. A major advertising and sales promotion effort will back new "Dial" to capitalize on product's peak sales period.

Did you help her get that Tan?



PHOTO BY LLOYD BAKER

Or did another sun-screen product—no better—but with *greater fragrance appeal* do the trick and get the business? The perfume compound incorporated in your product is a basic sales tool.

Together with the package and container, it adds to the "feel" and "look" of the item a sales clinching third dimension. *Oil, cream or spray,* the fragrance must be there . . . and it must be right . . . formulated for your product alone, with your customer requirements in mind. The D&O Perfume Laboratories are set-up to do just this, and more than 157 years of success attest to the quality of this service. May we help you?

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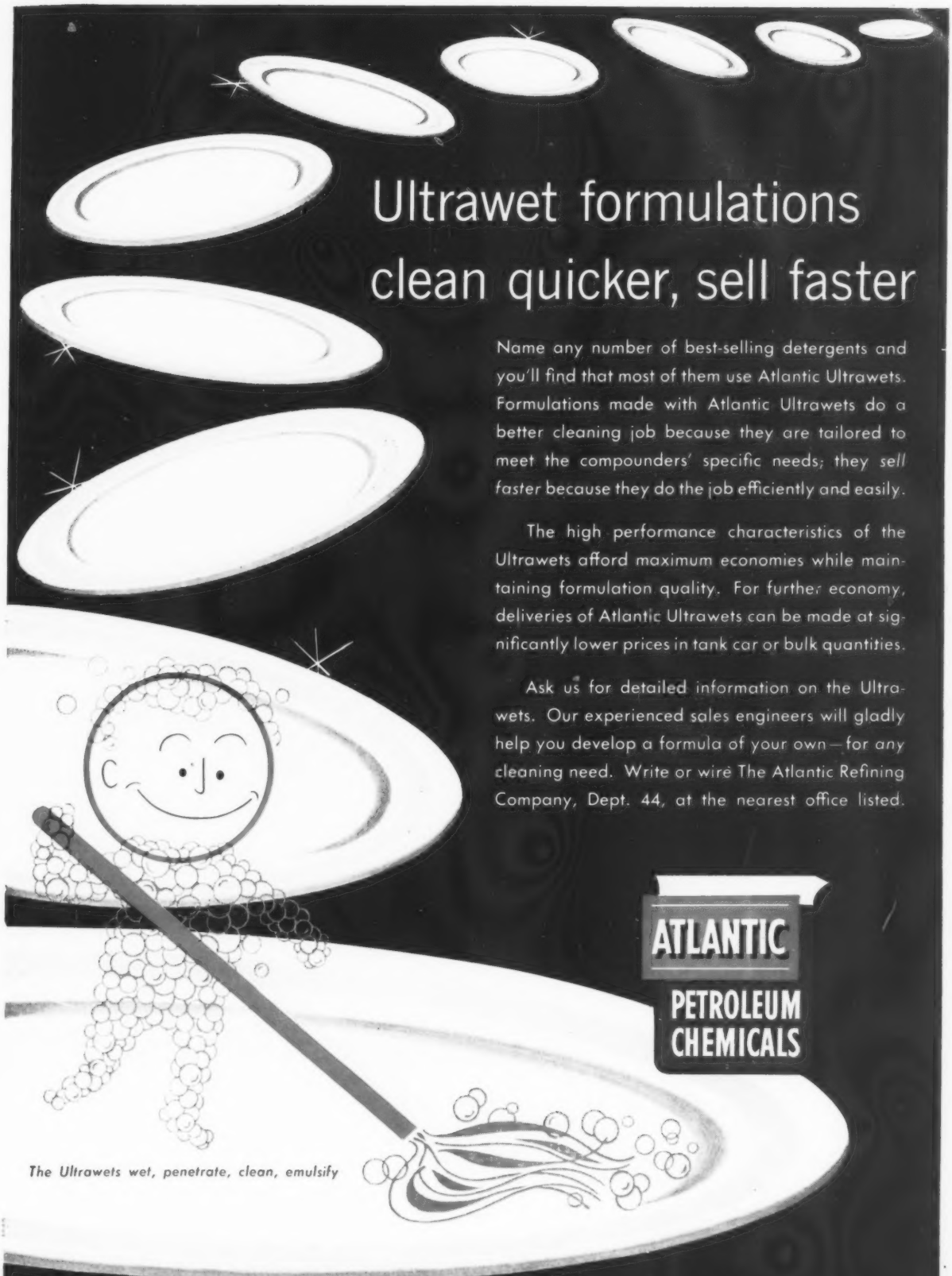
Complete Aerosol Testing Laboratory

Ultrawet formulations clean quicker, sell faster

Name any number of best-selling detergents and you'll find that most of them use Atlantic Ultrawets. Formulations made with Atlantic Ultrawets do a better cleaning job because they are tailored to meet the compounders' specific needs; they *sell faster* because they do the job efficiently and easily.

The high performance characteristics of the Ultrawets afford maximum economies while maintaining formulation quality. For further economy, deliveries of Atlantic Ultrawets can be made at significantly lower prices in tank car or bulk quantities.

Ask us for detailed information on the Ultrawets. Our experienced sales engineers will gladly help you develop a formula of your own—for *any* cleaning need. Write or wire The Atlantic Refining Company, Dept. 44, at the nearest office listed.



The Ultrawets wet, penetrate, clean, emulsify

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Are you searching for an honest appraisal **to guide you as a private brand distributor**

SELF-POLISHING WAXES

Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

CANDY'S SUPREME (standard)
BRIGHT BEAUTY® (standard)
CANDY'S SUPREME Special WR
SUPER CAND-DOX®
CAND-DOX® #CS
CANDI-WAX #6000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

Beauty and Durability

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

Anti-Slip

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax... beauty and protection.

Water Resistance

Frequent damp mopping or wet traffic can make water resistance very important. Overdoing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

Solid Content

The percentage of solid content is not nearly as important as the **quality** of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

Carnauba Wax

The most important features of a good wax ...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

Other HIGHEST QUALITY wax products by CANDY & COMPANY

Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER
For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

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A cream furniture polish that spreads easily, polishes without excessive effort to a deep impressive lustre. Permits repeated repolishing with a dry cloth, thus saving many re-applications. A very economical polish of the very highest quality.

Bright Beauty PASTE WAX
Properly blended and refined from excellent quality solids and solvents that produce the best drying time and evaporation. Easy to handle, having "creamy" consistency and stability that lasts throughout storage and usage life.

Bright Beauty LIQUID (spirit) PREPARED WAXES
A complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each acts as a "dry cleaner" to keep surfaces waxed protected with a superb coating necessary for many applications such as wood and certain other types of floors; for bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH
As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanness to glass. Different in color only as a Silver Polish, it polishes to a high lustre without abrasion and can even correct the abuses of scratchy "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX
Does not "ball-up" and gather dirt that impregnates floors with hard spots difficult to remove...free from dusty effects. Its protective quality adds more "floor-years" to expensive ballroom floors.

Bright Beauty Heavy Duty PASTE CLEANER
Cleans and scours more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive qualities, it frees almost every surface from all foreign matter.

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Now you can have dramatic, colorful labeling of your private brand name on all 55, 35, 30, 20 & 15 gal. drums and 5 gal. pails. This added service is accomplished right in our plant...your inspection invited...or write for details.

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2515 W. 35th ST., CHICAGO

Volume XXXIII, No. 6 June, 1957

SOAP and CHEMICAL SPECIALTIES

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Published monthly by
MAC NAIR-DORLAND COMPANY, Inc.

IRA P. MAC NAIR
President

GRANT A. DORLAND
Vice President and Treasurer

Publication Office
254 W. 31st St., New York 1, N. Y.
Telephone: BRyant 9-4456

Chicago Office
333 N. Michigan Ave.

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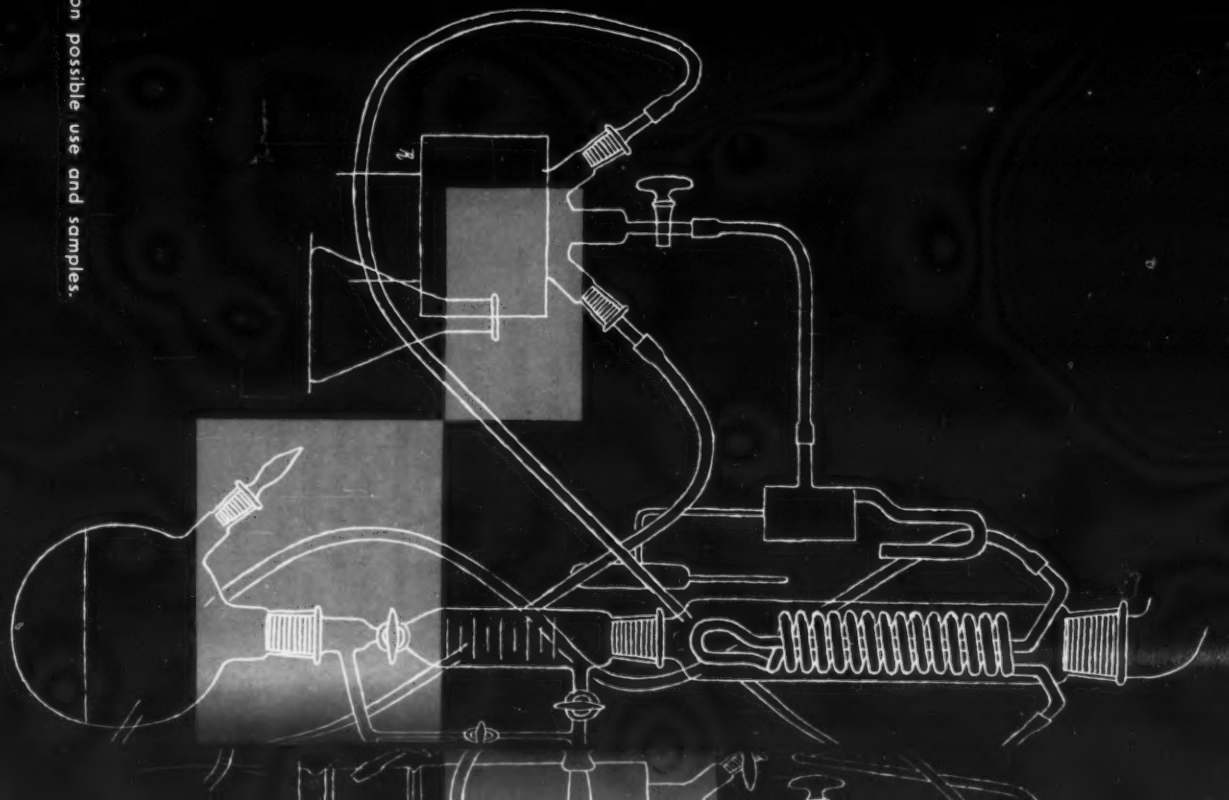
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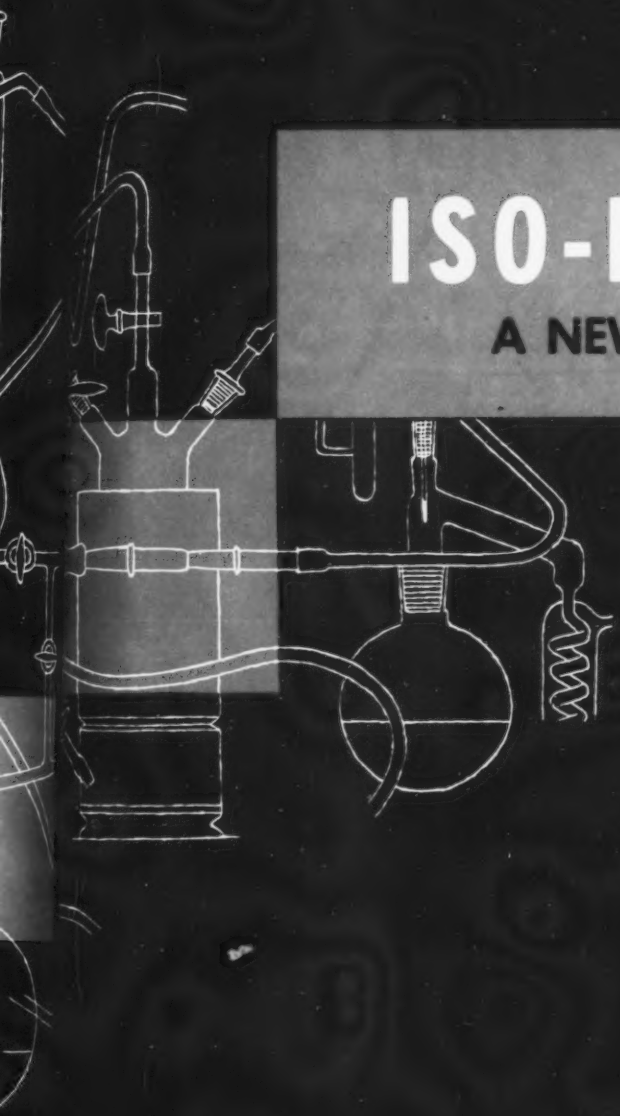
Official Publication: Chemical Specialties Manufacturers Assn.

Subscription rates: U. S., $4.00 per year; Canadian, $5.00; Foreign, $11.00 (2 years only). Copy closing dates — 15th of month preceding month of issue for reading matter and 5th of month preceding month of issue for display advertising. Reentered as second-class matter at the Post Office, New York, N. Y., under the Act of March 3, 1879. Single copies: Current issues 50¢; all back issues $1.00. Claims for missing issues must be received within 60 days of mailing date.

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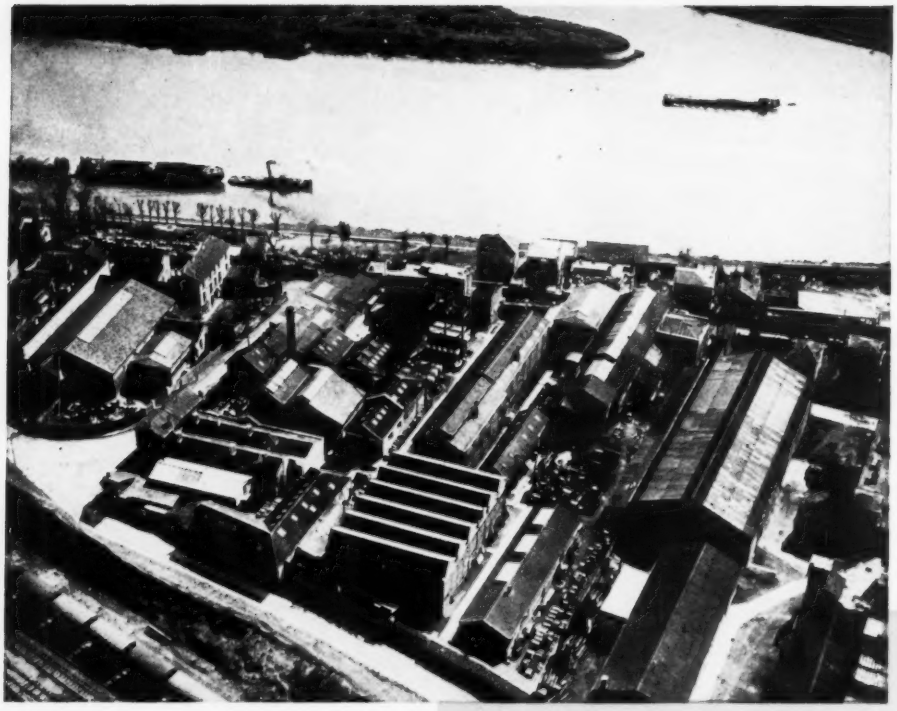


She prefers . . . dishwashing compounds containing phosphates

Nine times out of ten, when the coffee "klatsch" breaks up, phosphates take over . . . cups, dishes, and glassware go back to the cupboard sparkling clean . . . without a trace of coffee stain or water spots. Today, many leading producers of dishwashing compounds for automatic equipment specify Victor *chlorinated trisodium phosphate*. They know it makes dishwashing compounds smell fresh . . . does a cleaner and a more antiseptic job. Detergent manufacturers, too, know it pays to see Victor—for *sodium tripolyphosphate* and *tetrasodium pyrophosphate*. Both provide outstanding water-softening action with detergent properties.

VICTOR CHEMICAL WORKS

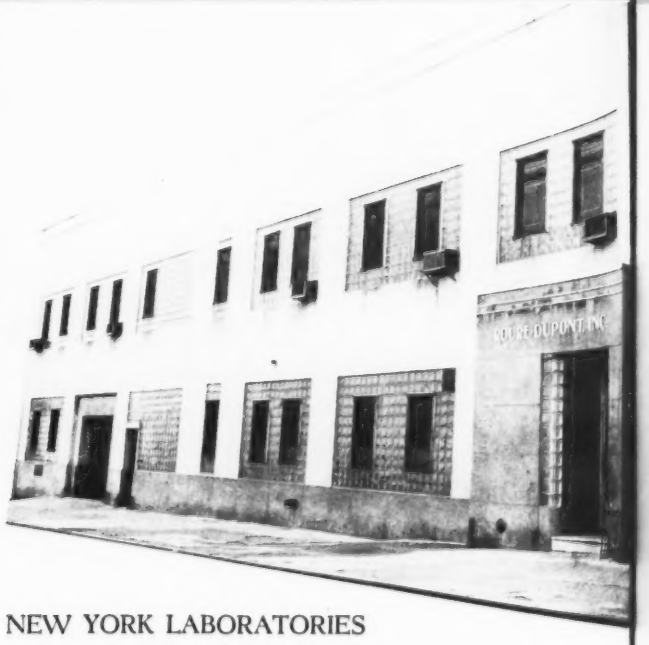
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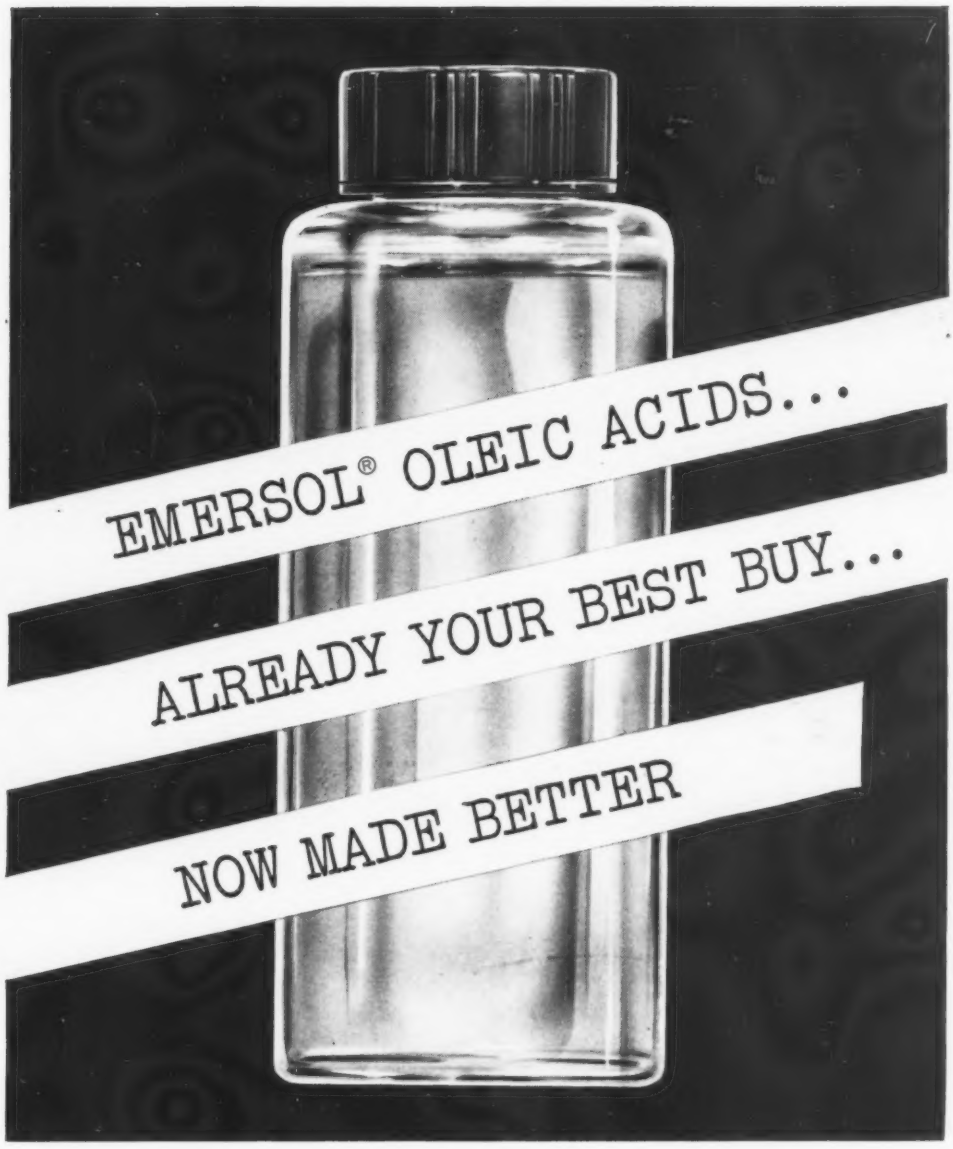
Shampoos, bubble baths, cosmetics, liquid dishwashers.

Superior foam stabilizer for anionics. Excellent detergent and wetter, and shows remarkable detergency synergism when blended with anionics or nonionics.

Almost any property you want for your household or industrial detergent is yours with the Nopco Hyonics. Never was it so easy to tailor your product to your exact performance and sales needs. At competitive costs too! Nopco technical men will gladly work with you to help you produce detergents to your own specifications. Write today for complete data on Nopco Hyonics. Nopco Chemical Company, Harrison, New Jersey.

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Mail coupon below for latest specifications on all Emery Fatty Acids and 20-page Emeryfacts titled "Emersol Oleic Acids."

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Nacconol SL

Outstanding! Looks clean and smells clean. Gives excellent foaming. Has very low haze-point. Emulsifies grease and oil. Compatible with anionic and non-ionic materials. Requires no dissolving, has low salt content, needs no extra stabilizer.

The best and most salable detergent products need not be the most costly to formulate. To prove it, just check the selling-*plus*-economy features of these two exceptional detergent bases.

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What you see above is no accident. We broke this slab of GROCO 55L to reveal the true stearic-palmitic crystal structure. It is a sure indication of the most favorable balance between palmitic and stearic acids—approximately equal parts. This ratio is a must if you are to produce cosmetic creams that won't shrink from the walls of their containers. Or buffing compound bars that release easily from their molds.

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☐ A. GROSS booklet, "Fatty Acids in Modern Industry"

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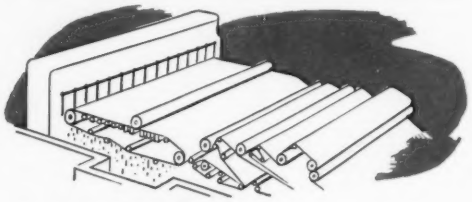
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RENEX® Reports

CHEMICALS DIVISION
ATLAS POWDER COMPANY, WILMINGTON 99, DELAWARE
Atlas Powder Company, Canada, Ltd., Brantford, Ontario, Canada



Cleaner for papermakers' felts

This type of felt is actually a wool blanket that carries wet pulp or partially dried paper, allowing water to filter through as it moves along the papermaking machine. Sizing and metallic salts in the pulp clog the felt, and must be cleaned out before the felt can be re-used.

This is a job for RENEX detergents. They are stable in the presence of the metallic salts and acids found in paper mills, so they won't form insoluble residues. The felt may be cleaned on the machine by a spray or removed and cleaned in a washer. From 3 to 4 pounds of RENEX 688, 690 or 698 with 6 to 12 pounds of soda ash per 100 gallons of water is recommended as a cleaning solution. This is usually followed by a dilute acid rinse and a final rinse with fresh water.

Interested in selling a product of this type? Write to us for samples of RENEX products and technical data.

Making fruit and vegetables look bright and clean



Fruit and vegetable packers like to wash their produce before packing, to give them a clean, appetizing look. This enhances appeal of the food and increases sales.

This kind of cleaning is done by spraying, soaking or sudsing, using a solution containing from 1 to 2 pounds of detergent per 100 gallons of water. The RENEX detergents are highly recommended—the packer avoids the dull soap film he sometimes encounters when using soaps in hard water. RENEX is fine, too, when the packer uses a dilute acid in his wash—RENEX materials are very stable in the presence of acids.

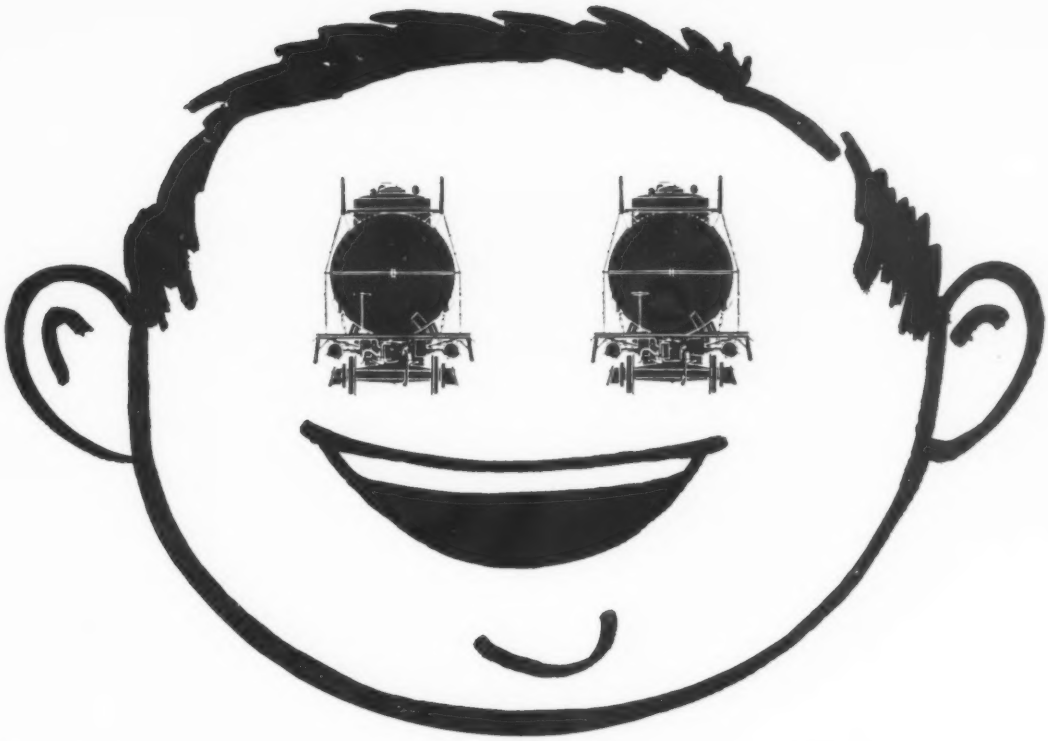
We invite you to try RENEX 688, 690 and 698 in washing formulas for fruit and vegetable packers. Write for samples and technical data.

Formulate to fit your needs with the RENEX 600 detergent family

RENEX No.	648	697	688	698	690	678	650
Mols EtO	5	6	8	9–9.5	10	15	30
Form @ 25° C.	liquid	liquid	liquid	liquid	liquid	liquid	solid
HLB No.	10	10.9	12.3	13	13.3	15	17.1
Wetting @ 25° C. (% soln. req. for 25 sec. wet)	— —	.1 .2	.06 .08	.05 .07	.05 .07	.3 .5	>1
Foam height (Ross-Miles, mm .05% soln. @ 25° C.)	11	11	17	26	40	83	71
Cloud Point °F. (1% soln.)	—	<32	87	129	150	211	>212
Water solubility *	I	D	D	S	S	S	S

* I—insoluble
D—dispersible
S—soluble

NOTE: These data represent typical characteristics rather than guaranteed specifications.



"Sitting Pretty" on Alkalis

CAUSTIC SODA
Liquid 73%
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Flake, Solid and Ground, 76% Na_2O

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Natural, Light and Dense

Sitting atop vast brine fields, our modern electrolytic caustic-chlorine operation at South Charleston, W. Va. is one of the largest in the industry.

From this strategic location we give exceptional service to alkali users in the industrial areas of the Midwest, Mid-South, Middle Atlantic States and New England. Frequently we're hours or days closer by rail, truck or waterway than producers who are nearer on the map.

On soda ash, too, we have much to offer.

From immense deposits of pure trona at Westvaco, Wyoming we refine a rapidly-soluble soda ash that is chemically purer, low in iron, free-flowing and non-dusting. We can probably give you a bigger value for your money on your soda ash needs.

For quality, value and service, you, too, will be "sitting pretty" when you specify Westvaco® Alkalis.

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* **NANSA S. POWDER**

40% spray dried dodecyl benzene sodium sulphonate

* **NANSA LIQUIDS**

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bead type totally spray dried synthetic detergent containing molecularly condensed phosphates, carboxy-methyl-cellulose, silicates, foam builders etc.



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Manufacturers of . . .

ORGANIC DIVISION: Fatty alcohol sulphates (EMPICOLS), emulsifiers (EMPILANS), self-emulsifying waxes (EMPIWAXES), alkyl aryl sulphonates (NANSAS) and other detergent bases, additives and emulsifiers in powder, paste and liquid forms.

INORGANIC DIVISION: phosphoric acid and complex phosphates.

After Closing

Greer in New Post

Appointment of Joseph L. Greer to central division sales manager of Piatt & Smillie Chemicals,



Joseph L. Greer

Inc., St. Louis, was announced recently. Mr. Greer will supervise the sales of the firm's complete line of sanitary chemicals in Missouri, Arkansas, Mississippi, Louisiana, Oklahoma, Kansas and parts of Iowa, Illinois, Indiana, Ohio, Kentucky, Tennessee, Alabama, Texas, Colorado and Nebraska. Mr. Greer joined Piatt & Smillie in 1954 as sales representative and later became a district and then regional sales manager.

—★—

Helene Curtis Names Five

Helene Curtis Industries, Inc., Chicago, recently announced the following appointments: Joseph J. Galietto, formerly a sales manager for Toni Co., as field sales manager of its Lentheric Division; John E. Hartlein, formerly sales promotion manager for Irwin Neisler & Co., pharmaceutical manufacturers, as new products manager; Miss Lynn Boland, formerly assistant to the president of Revlon, Inc., as brand manager of Lentheric fragrances; James Hubbard, formerly divisional sales manager for Lentheric in Phoenix, Ariz., as divisional manager for "Kings Men" brand products and Lentheric, with headquarters in Los Angeles; and Paul Holly as customer relations and office manager.

—★—

New Puritan Sales Office

Puritan Chemical Co., Atlanta, Ga., manufacturer of sanitary chemicals and building maintenance products, has opened a new sales office and 10,000 square foot warehouse at 816 Live Oak Street, Houston Tex., it was announced last month by Ted V. Fisher, vice-president of marketing. William L. Eubanks, Jr., will remain as Houston district sales manager, while W. R. Hine, Jr., formerly assistant manager at the firm's main Atlanta plant, will be in charge of warehouse facilities.

—★—

New Use For Detergents

Household detergents and waterless hand cleaners provide the best method for the removal of radioactive contamination, it was reported recently by William Friedman, Navy health physicist. Speaking at the recent National Industrial Health Conference in St. Louis, Mr. Friedman said that these two materials were superior to soaps, skin creams and scrubbing agents in washing off the radioactive substances such as might be faced by plant employees who work with radioactive materials, or by residents of an area hit by a radioactive fallout.

—★—

Wyandotte Obtains License

Wyandotte Chemicals Corp., Wyandotte, Mich., has been licensed to utilize a 30,000-ampere rectangular diaphragm cell, developed by Diamond Alkali Co., Cleveland for electrolytic production of chlorine and caustic soda, it was announced recently. Plans call for installation of the units at Wyandotte's $20,000,000 chlor-caustic plant, now under construction at Geismar, La. The plant is scheduled to go on stream late in 1958.

—★—

Turnbull Heads Kusiel

Peter R. Turnbull has been named president of Kusiel Chemical Co., Bronx, N. Y., it was announced early this month. Mr. Turnbull formerly was general traffic manager of R. Hoe & Co., New York manufacturers of printing press equipment, with whom he had served for 28 years. Kusiel makes "Randu" all-purpose floor cleaner, plus other allied maintenance specialties.



Peter R. Turnbull

—★—

Penick Acquires Dow Dept.

S. B. Penick & Co., New York, late last month announced acquisition of the aromatic compounding department of Dow Chemical Co., Midland, Mich. Penick will now produce and market all aromatic blends formerly manufactured by Dow. Present compounding and technical personnel will be retained. Under the terms of the agreement Penick will take over the entire physical inventory of merchandise and equipment, formulas, tradenames, trademarks and patents of the department. Production will continue at the department's Jersey City, N.J. plant. Dow continues to manufacture basic aromatic chemicals.

Conn. Passes First Hazardous Substances Law

CONNECTICUT last month passed the first comprehensive state law regulating the labeling of hazardous substances. Connecticut House Bill 1061 will take effect January 1, 1958. Several other states passed laws pertaining to chemical specialties.

Regulations serving a similar purpose are in effect in New York State, New York City, New Jersey, and California, but their coverage is generally limited to individual substances or they are laws enabling food and drug authorities to set up their own set of rules.

The newly passed Connecticut law does not apply to "packages or containers labeled in compliance with pertinent federal or state laws or state police regulations." Soap products and sensitizers are exempt. According to the Chemical Specialties Manufacturers Association's counsel, the Federal Insecticide, Fungicide and Rodenticide Act, and the Federal Food, Drug and Cosmetic Act would be considered a "pertinent federal law."

"Sensitizer" is defined as a material which, as ordinarily handled, does not cause any discernible reaction in living tissue but which, after initial or repeated contact with the tissue of some persons may, at a later date, produce a prompt inflammatory reaction on contact with the tissue of such persons."

Aerosols are covered in law, which says: "The flammability of the contents of self-pressurized containers shall be determined by methods generally applicable to such containers and established by regulations issued by the commissioner and director acting jointly." Information required on the label differs from both Federal bills recently introduced in Congress. No warning statement: "keep out of reach of children?" is stipulated.

The commissioner of food and drugs and the director are authorized by the act to make regulations which may "define degrees of hazard of certain substances; establish requirements as to information on size, typography, color and location of labels," etc.

Regulations issued under this act will be important, according to CSMA, who believe that there will be hearings on them.

An amendment to North Carolina House Bill 936, entitled Household Cleaners, indicates that states are watching proposed Federal legislation. The North Carolina amendment stipulates that provisions of the state law be superseded by Federal laws.

Effective January 1, 1958, all household products which are poisons within the meaning of the Indiana Poison Registration Act must be registered with the State Board of Health. Automotive products are included. Registration fee is $10.00, no reregistration being required unless formula, trade name, or manufacturer have changed. Application forms can be secured after July 1 from T. E. Sullivan, director, Division of Food and Drugs, Indiana State Board of Health, 1330 West Michigan Street, Indianapolis, Ind.

The State of Arkansas is proposing to increase annual economic poisons registration fees, it was announced last month. For several years the fee was $5.00 for each of the first 10 poisons registered and $2.00 for each additional product. Under the new proposal it would be $5.00 for each product, regardless of the number registered. CSMA requests comments from members and asks to be advised of any protests lodged by individuals.

—★—

Brake Fluid Laws

An act regulating the marketing of brake fluids in the State of Texas was approved last month as Senate Bill 145 and becomes effective August 23, 1957. The law stipulates heavy duty brake fluid for sale in Texas. Samples must be submitted for approval to the Department of Public Safety and a filing fee of $50 must be paid by the applicant. No renewal is required. Labeling regulations, and provisions for enforcement are included in the bill. Applications for registration can be made at once to G. W. Busby, chief, Motor Vehicle Inspection Division, Box 4,087, North Austin Station, Austin, Tex.

Brake fluid legislation pending in Florida as Senate Bill 1050 calls for heavy duty fluid S.A.E. 70-R-1. A license or inspection fee of $25 must be paid for each brand upon application and an annual renewal fee of $25. The act is to become effective July 1, 1957. The Chemical Specialties Manufacturers Association recommends certain changes. Copies of the bill have been sent to members and CSMA requests comments and suggests direct action by members.

—★—

Guenther on African Tour

Ernest Guenther, vice-president and technical director of Fritzsche Brothers, Inc., New York, left last month on a four-month tour of essential oil producing sections in Africa. The trip includes stopovers at the Belgian Congo Lake Region, Madagascar, the Comoro Islands, Reunion Island, Zanzibar and equatorial West Africa. Among materials to be studied by Dr. Guenther are oils of eucalyptus, vetiver and lemongrass, ginger root, sweet orange oil, sweet basil and ylang ylang. Upon his return, color motion pictures of the journey will be shown in a series of lectures to be sponsored by Fritzsche.

—★—

Name Magazine Consultant

Ernest Shiftan, vice-president and chief perfumer of van Ameringen - Haebler, Inc., New York, has been appointed to the scientific committee of the German publication, *Parfumerie und Kosmetik*, it was announced recently. Mr. Shiftan will serve as consultant and technical adviser with emphasis on scientific developments in the American cosmetic and perfume industries.

Hercules Makes Repellent

Hercules Powder Co., Wilmington, Del., recently announced commercial production of diethyl meta-toluamide, a new insect repellent base, at its newly constructed Brunswick, Ga., plant. Called meta "Delphene," the product is said to contain more active material than when originally introduced. It was discovered by the U. S. Department of Agriculture and termed by it as the best all-purpose repellent so far developed. USDA completed testing of the product in March of this year.

Said to be almost odorless and colorless, meta "Delphene" is long lasting and may be applied directly to the skin. Its high degree of purity, according to Hercules, improves its effectiveness and application qualities and is attributed to a new process for manufacture of diethyl meta-toluamide from a toluic acid, recently developed by the company at its Burlington, N. J. laboratories.

—★—

Lavender Plentiful

The 1957 French lavender crop will be 50 per cent larger than last year's according to a market report issued last month by P. Robertet, Inc., of Grasse, France, and 221 Fourth Avenue, New York. Current lavender oil prices run at approximately 10,000 francs per kilo, and are expected to stabilize at between 6,000 and 8,000 francs before the 1958 harvest has been collected.

The new crop of lavandin also promises to be very heavy and certain producers are actually doing some panic selling at 1,300 francs. Robertet expects the price to stabilize at about 1,500 francs a kilo.

—★—

Mallegol in New Post

Appointment of Andre J. Malegol, as sales representative in metropolitan New York, New Jersey, eastern Pennsylvania, Maryland and the District of Columbia for Aromatic Products, Inc., New York, was announced recently. Mr. Mallegol formerly was technical sales director for Rhodia, Inc., New York. Prior to that, he was associated with E. I. du Pont de Nemours & Co., Wilmington, Del., as a perfumer.



Andre J. Malegol

—★—

Nebraska Carbon Tet Law

Carbon tetrachloride is included among substances covered by Nebraska legislative Bill 521, which was passed last month. The bill amends section 71-2501, Reissue Revised Statutes of Nebraska 1943, relating to poisons. It redefines poison, and repeals the original section. Among exemptions under the amendment are substances covered by the Federal Food, Drug and Cosmetic Act and the Federal Insecticide Act.

—★—

Oleic Acids Price Cut

Emery Industries, Inc., Cincinnati, last month announced reductions in the base price of its "Emersol 213, 221, 233" and "Emersol 240" multiple distilled oleic acids.

However, because of increased drum and freight costs the company has increased the difference between its drum carload and base prices from two to 2½ cents. Correspondingly, the price difference between ton lots and the drum carload has risen from one to 1¼ cents, while the differential between less ton lots over ton lots also has been increased 1¼ cents.

Curtis Bill to Committee

A second Federal bill to regulate the labeling of hazardous substances was introduced in Congress, May 9, and has been referred to the Committee on Interstate and Foreign Commerce of the U. S. House of Representatives. The latest bill, H. R. 7388, introduced by Representative Thomas B. Curtis of Missouri, bears the title, "Federal Hazardous Substances Labeling Act." Its aim, according to its author, is "to regulate the interstate distribution and sales of packages of hazardous substances for household use." The Curtis bill is closely similar to a companion bill, S. 1900, introduced in the U. S. Senate Apr. 16, by Prescott Bush, U. S. Senator from Connecticut.

In spite of their close likeness in purpose and wording the two bills show a few minor differences. Curtis uses the term "hazardous substances" – Bush the term "hazardous articles." The Curtis bill expressly excludes "action on inanimate surfaces" in its definition of the term "corrosive," whereas the Senate bill does not mention inanimate objects. The Curtis bill stipulates that the warnings required on the label must be "located prominently, and in English in legible type in contrast by typography, layout, or color with other printed matter on the label." The Bush bill's wording on this subject is in more general terms. Both laws exempt items covered by the Federal Insecticide, Fungicide and Rodenticide Act and the Federal Food Drug and Cosmetic Act.

The Curtis bill makes it optional for the Secretary of Health, Education and Welfare to publish "from time to time reports summarizing any judgments decrees, or court orders which have been rendered under this Act . . ." whereas the Bush bill makes such reports mandatory. Both bills would repeal the Federal Caustic Poison Act.

A number of states have passed similar laws incorporating provision for the state law to be superseded by Federal legislation, if and when such legislation is passed.



Royal visitor: Her Majesty Queen Juliana of the Netherlands arriving with her entourage at the perfuming materials plant of Polak & Schwarz, Inc., Zaandham, Holland. The queen was greeted by A. Schwarz, managing director of Polak & Schwarz, third from left in foreground. Others in photograph, left to right, are: W. Thomassen, Mayor of Zaandham; Jonkvrouwe W. A. Repelaar van Driel, Lady in Waiting (partly obscured by Mr. Schwarz); C. C. Brummer, director of Polak & Schwarz, and Commander C. C. de Jong, Aide de Camp to Her Majesty Queen Juliana. The red letter day of the royal visit was April 25. In his address of welcome Mr. Schwartz gave a comprehensive picture of the organization and operation of the firm, which has a network of 17 subsidiary companies in all including a branch in the United States. As part of her visit, the queen was shown a small collection of products, including soaps, in which Polak & Schwarz aromatic chemicals are used in one form or another.

Turpentine Symposium

Camphor, insecticides, synthetic pine oil, oil additives, and synthetic resins are the five major end uses of sulfate turpentine products, discussed at a recent symposium of the sulfate turpentine division of the Pulp Chemicals Association. Albert Scharwachter, Arizona Chemical Co., president of the association, and L. A. Radeker, Champion Paper & Fibre Co., chairman of the division, welcomed the gathering.

G. Fred Hogg, Hercules Powder Co., and W. David Stallcup, Glidden Co., described their respective companies' treatment of crude sulfate turpentine to convert it into alpha and beta pinenes and touched upon the major end uses mentioned above.

Statistics on production and uses of the various kinds of turpentine since 1934 were provided by J. M. Wafer, West Virginia Pulp and Paper Co., T. K. Heston, assistant secretary and statistician of the association, and Herbert B. Wagner, U.S. Department of Agriculture.

Ways to improve the yield of sulfate turpentine in the pulping process were discussed by Robert Wier III, of Hercules Powder Co.

—★—

"Camay" in Britain

"Camay" toilet soap is being test marketed in Britain by Thomas Hedley and Co., Ltd., a subsidiary of Procter & Gamble Co., Cincinnati, it was announced recently. The manufacture of "Camay" by Hedley marks the firm's entry into the toilet soap field. Previously, its activities had been concentrated in the production of soap powders, detergents and cleansers.

—★—

CMRA Elects Chaddock

The Chemical Market Research Association recently announced the election of R. E. Chaddock of Hercules Powder Co., Wilmington, Del. as president and K. R. Parker, B. F. Goodrich Co., Akron, as president-elect. Other officers elected include F. G. Garrision, Columbia Southern Chemical Co., Pittsburgh, treasurer; R. F. Musser, Union Carbide Chemicals Co., New York, secretary; and J. W. Everson, Dow Chemical Co., Midland, Mich., and M. W. Leland, Shell Oil Co., New York, directors.

—★—

Glycerine Plant Write-Off

Olin Mathieson Chemical Corp., New York, last month received a certificate of necessity authorizing rapid write-off of part of the cost of a proposed new synthetic glycerine plant. The plant will be located at Doe Run, Ky.

The certificate of approval by the Office of Defense Mobilization grants accelerated amortization privileges on 60 per cent of a certified expenditure of $10,675,000 for the new facilities.

Aerosols put on the dog: Decorative plastic heads finished in gold of the 12 most popular types of dogs are a feature of the new line of aerosol pet products of Guardian Industries, Inc., New York. A pet shampoo and a parasiticidal mist product comes packaged as aerosols and retail for $1.50 each. The container of insect powder looks like a pressure package, but is a shaker top can. Crown cans and Precision valves are used.





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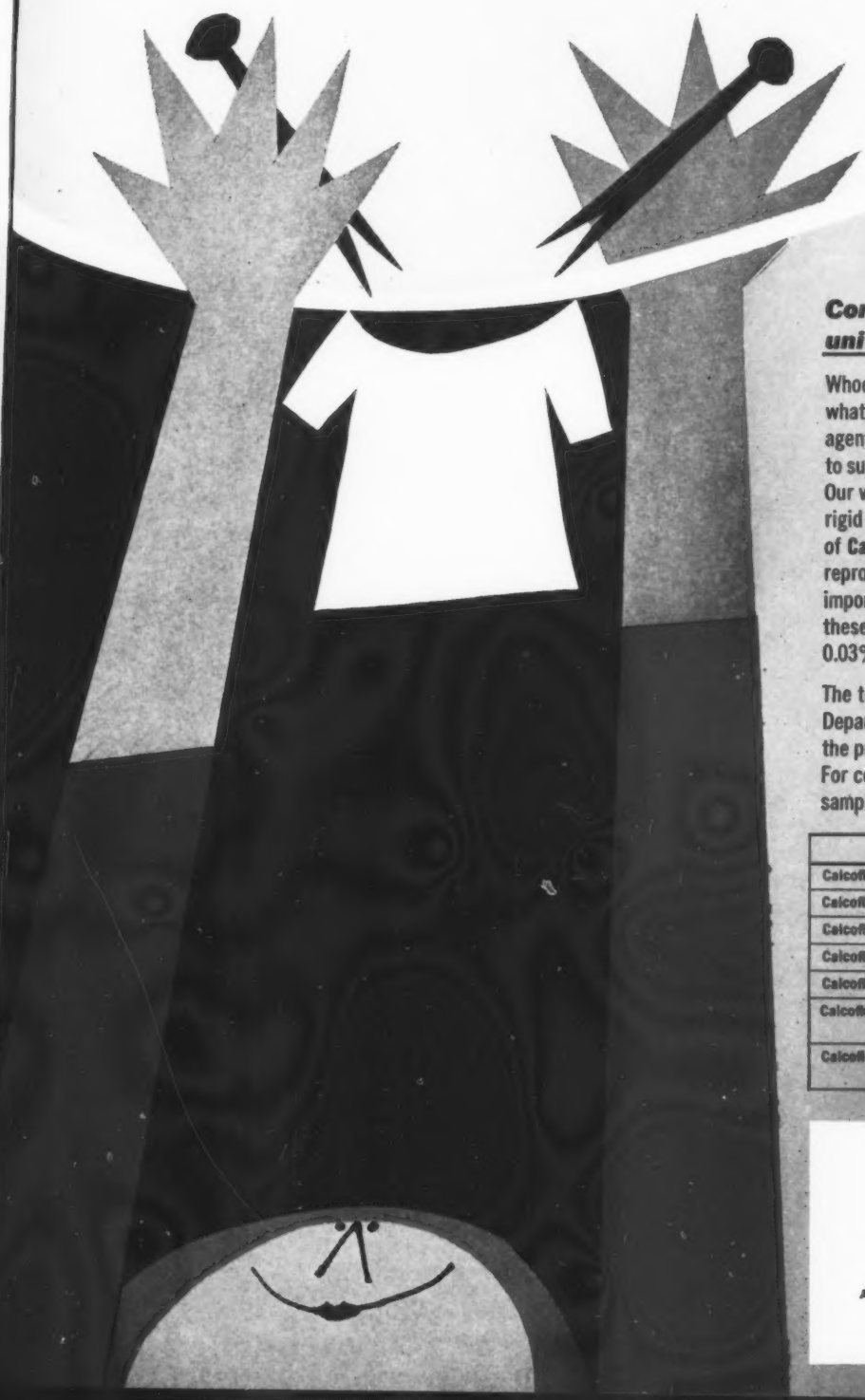
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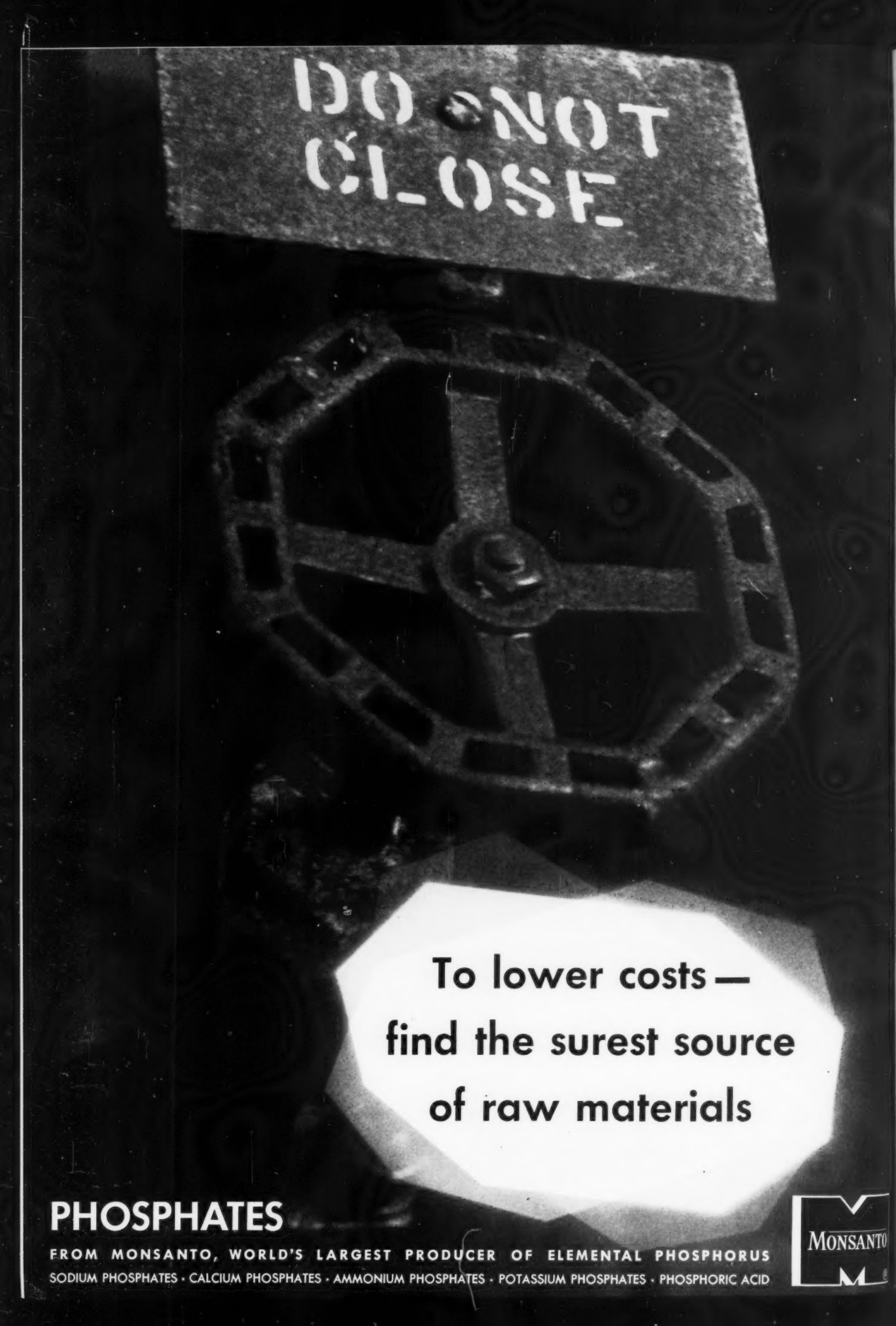
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Calcofluor White M2R New	slightly reddish blue	cotton, viscose
Calcofluor White 2R Conc.	slightly reddish blue	cotton, viscose
Calcofluor White SD	neutral blue	nylon, acetate, wool, orlon, acrilan
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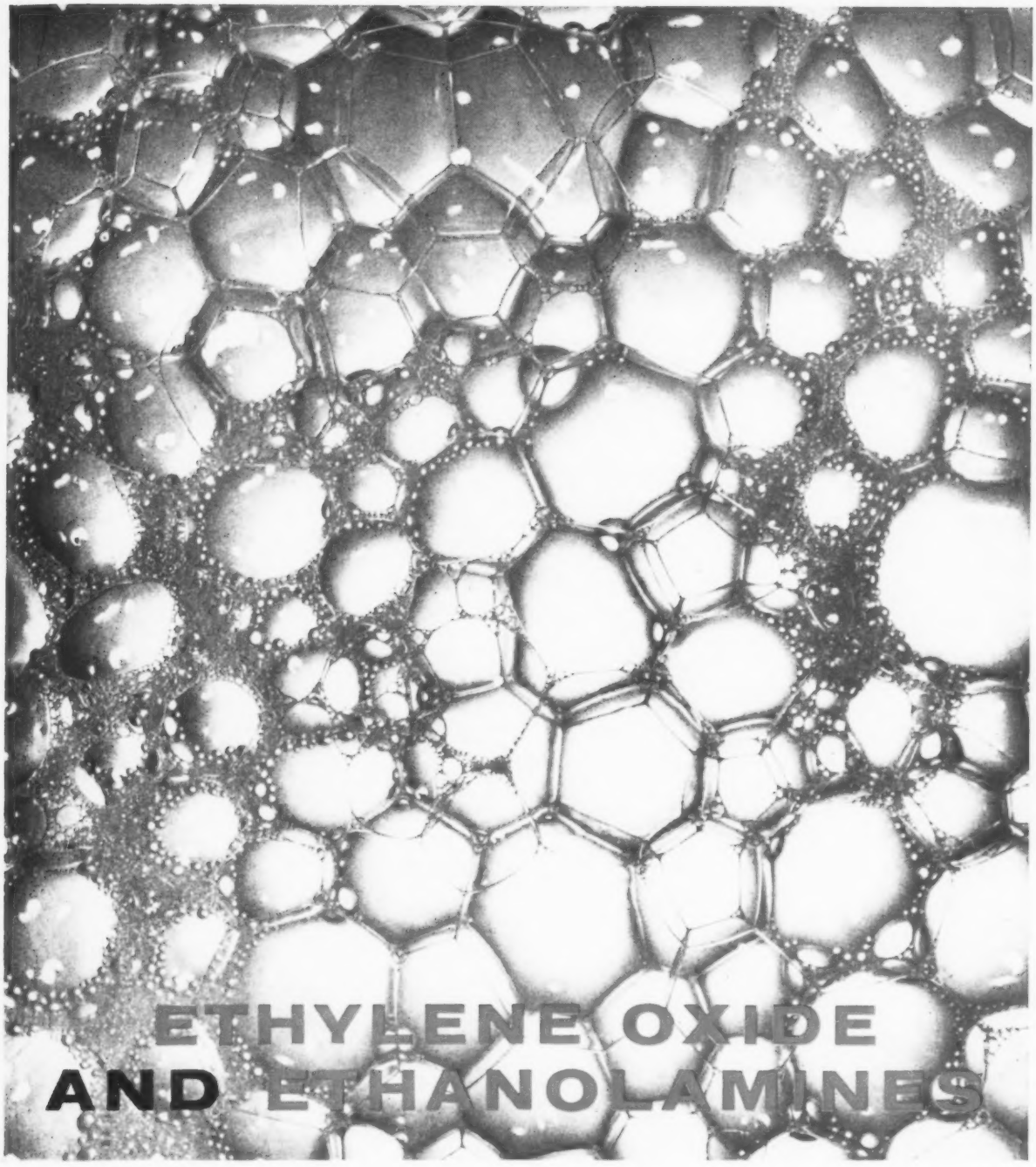
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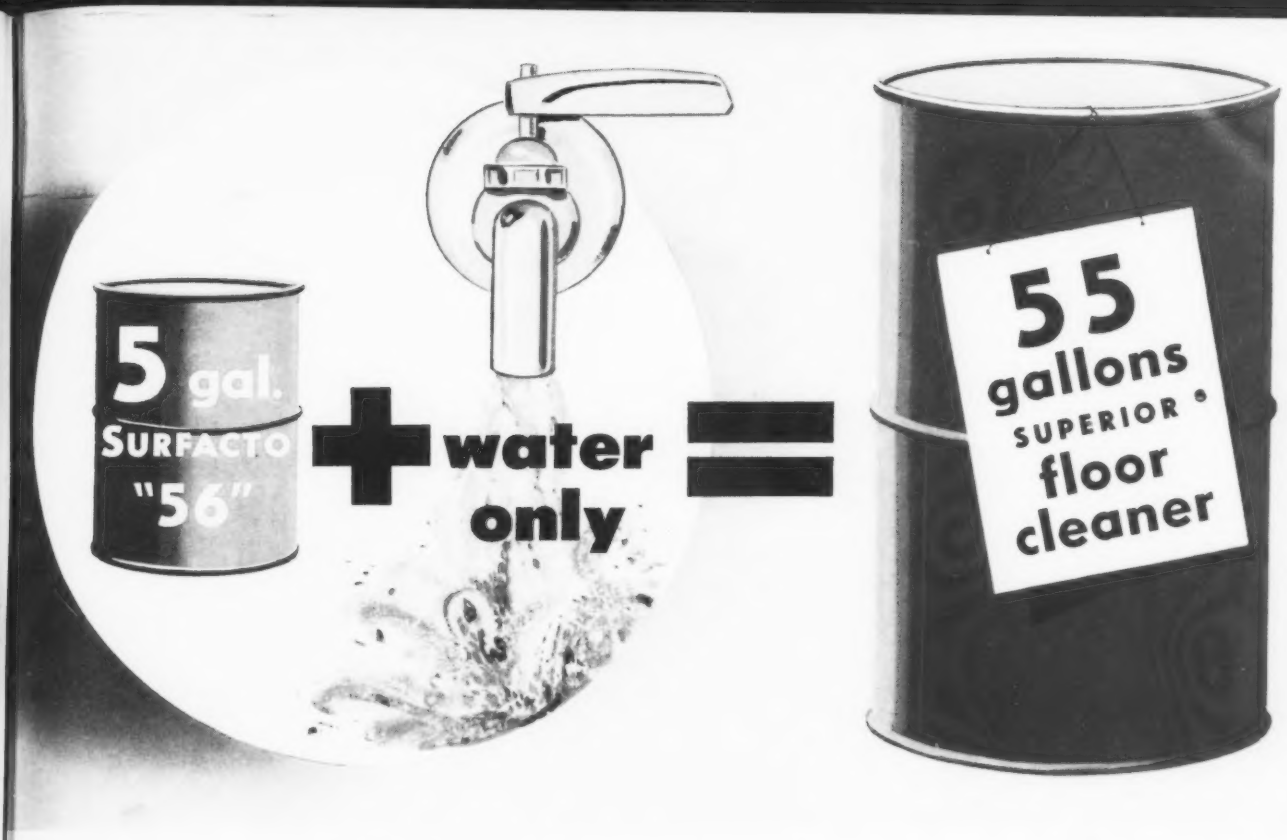
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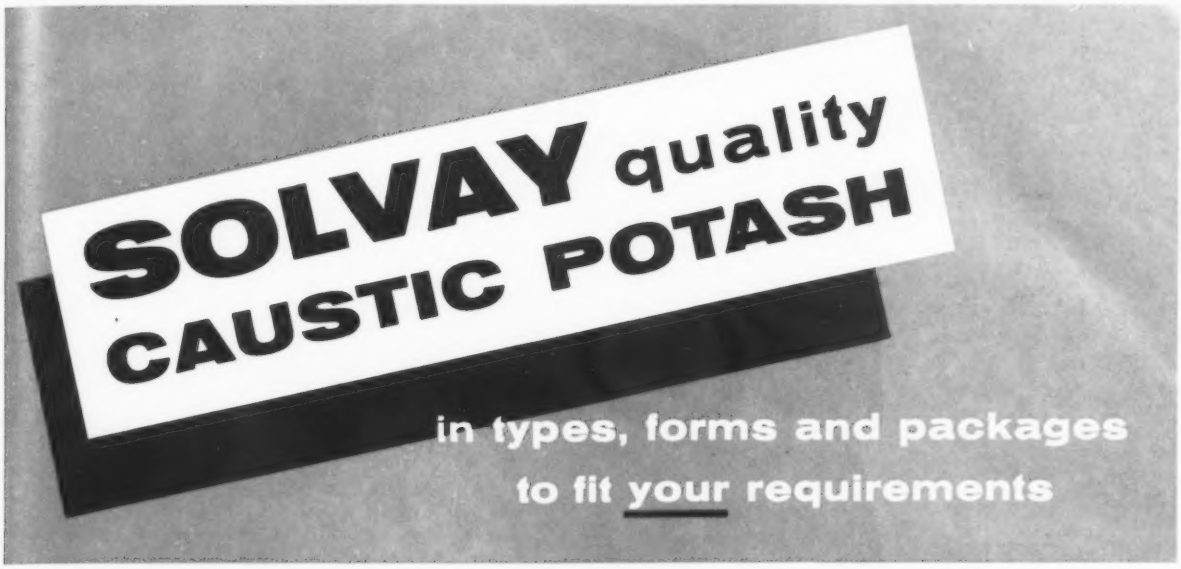
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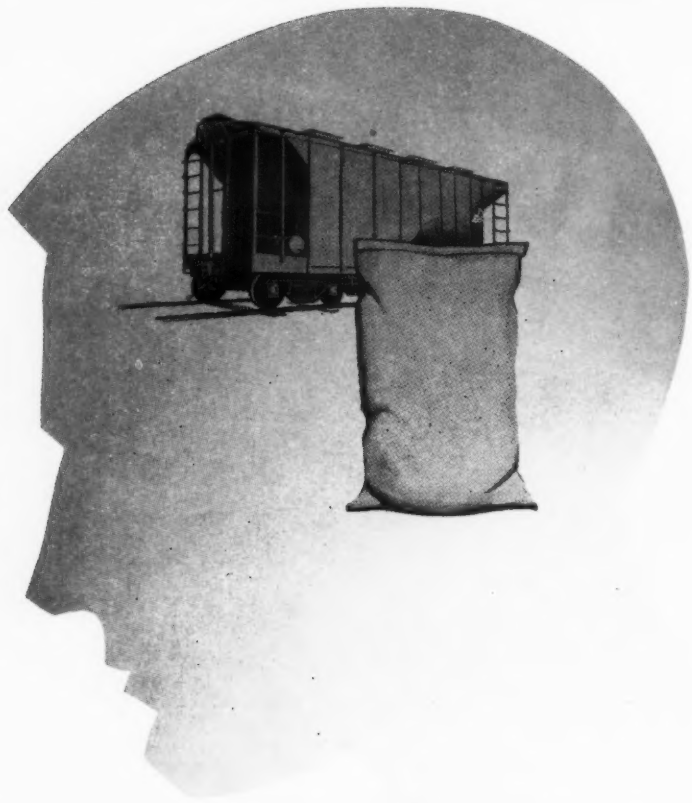
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When you buy phosphates... You know exactly what you want!

You want uniform high quality. Westvaco quality is tops and unvarying, based on a full half-century of experience in diligently serving the needs of phosphate users.

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You want low delivered prices. Westvaco® Phosphates are always completely competitive.

Quality, dependability, fast service, low delivered price – there isn't much more we can add. You know what you want. Westvaco can supply it. We'll be glad to quote on your needs.

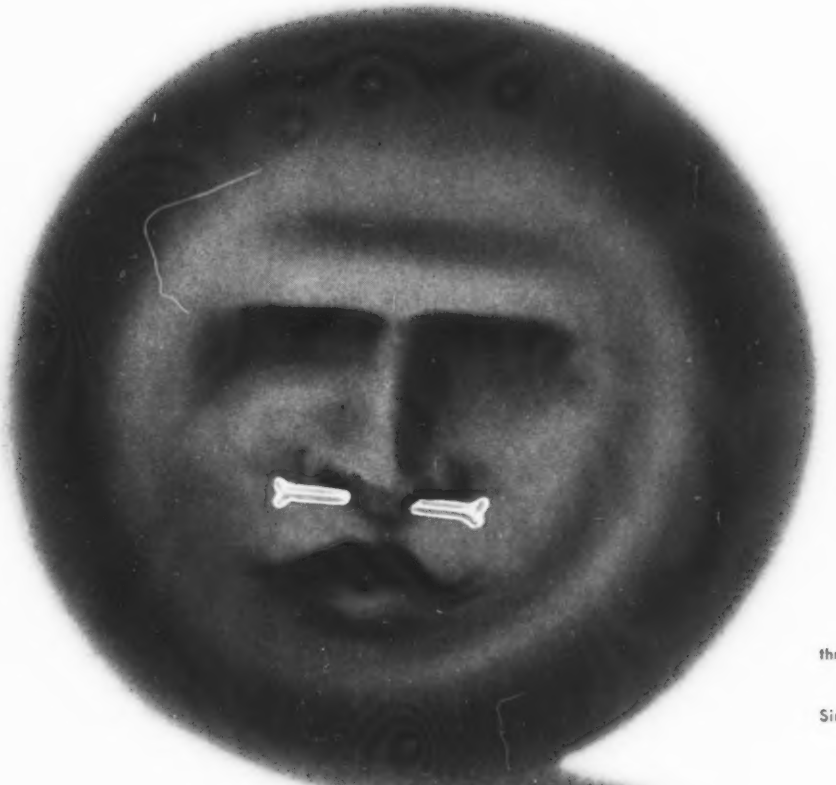
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FANCY

POLYNESIAN'S NOSE

Strange adornments like bones thrust through the nostrils have a very special meaning to a Polynesian.

Since many primitive men believe the nose is the gateway by which the soul can leave the body, or demons can enter, they blockade the nose with these safeguards.

THE NOSE – FANCY AND FACT

FACT

PFW'S NOSE

Demons or no demons, we'd be willing to wager a sou or two that the aforementioned gentlemen would quickly remove the "blockades" if they even got a whiff of one of PFW's modern fragrance specialties . . . "nose openers" if there ever were any.

Would you like a little whiff yourself? You might find it very useful to your business. Glad to oblige.

PFW

for odor and taste

POLAK'S FRUTAL WORKS INC., MIDDLETOWN, N. Y.

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THE KEY IS CMC



Lakeseal RESTAURALL utility detergent powder utilizes the unique dirt-suspending properties of CMC to keep restaurant fixtures gleaming bright. By adding Hercules® CMC to this and other detergent formulations, Finger Lakes Chemical Co. insures uniformity of cleaning action and dispersion of ingredients. Hercules CMC helps to 'float away' grease and grime particles loosened by detergent action, makes detergent formulations more effective.

CMC has found wide application in soap and detergent products marketed by leading manufacturers. As a suspending agent, water binder, viscosity control agent, or film-former, CMC is being utilized in the manufacture of paper, ceramics, textiles, and pharmaceuticals. Perhaps Hercules CMC can improve the efficiency of your product and enhance customer acceptance. Write Hercules for a sample quantity of CMC and complete technical information, mentioning products you market.

FLOATS GRIME AND GREASE AWAY
Restaurall detergent powder is a special formulation for all restaurant cleaning needs marketed by Finger Lakes Chemical Company, Etna, New York.



Virginia Cellulose Department
HERCULES POWDER COMPANY
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. . . in brief

HUMOR. . . . When the staid "New York Times" comes up with a humorous editorial, that's news, real news. And the cause of all this mirth? A proposed cut in the budget of the House of Representatives of the dear old Congress on soaps, cleaning materials, paper cups, towels, et al. Outside of the inevitable reference to "soft soap" — which always gives us a pain in the neck — the "Times" was quite funny in ribbing our Congressmen because they wanted to save money by using less soap and cleansers. A 72 billion dollar budget in the works and some great brain comes up with the idea of saving a few peanuts by supplying members of the House less soap and fewer towels.

At the same time that some of our representatives propose to save money on soap, they come up with the idea for a special "panic-proof" door which apparently is designed to get everybody out of there in a hell of a hurry if necessary. If some jerk comes in and starts shooting in any and all directions at once, the members of Congress, we hear, can rush the exits en masse without fear of a big pile up by the doors. Wonderful idea. Then they can all scram home and wash their hands with their own soap.

* * * * * *

AEROSOL SURVEY . . . About 320,000,000 non-food aerosol units were sold by manufacturers in 1956, according to survey figures from the Chemical Specialties Manuturers Association. This was an increase of about 30 per cent over the 240,000,000 units sold in 1955. The CSMA figure for 1956 was projected from an actual reported total of 293,000,000 units. Sales of cans to aerosol manufacturers totaled 327,000,000 while valve sales hit 357,000,000. About 20 million units were packed in glass, the balance in metal. The survey showed reports this year from 83 aerosol fillers and marketers compared to 67 firms reporting last year.

Hair sprays took over first place in the aerosol market picture in 1956 with a jump of close to 50 per cent. Over 79,000,000 units of hair sprays were reported actually sold. Insecticides dropped to second place in 1956 for the first time losing ground by about 7 per cent compared to 1955. Shave lather again showed up in third place in 1956. Actually reported sales showed a decline from 1955, but it is believed that these figures may be misleading. Failure of one of the largest producers of aerosol insecticides, and shave lather to report his figures this year has to some degree been a set-back to the survey.

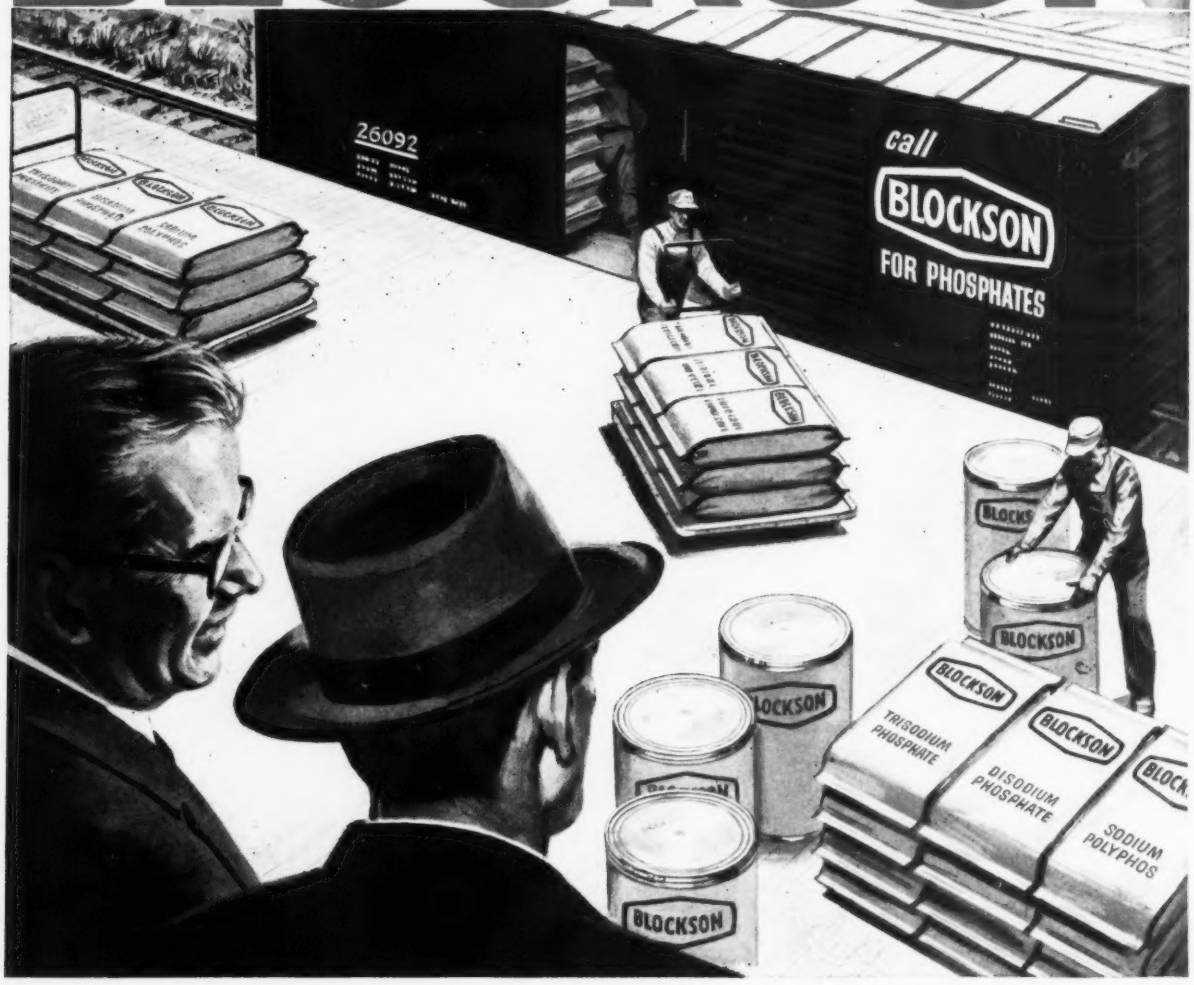
The trends shown by these survey figures should be of great value to manufacturers in charting future sales policies. Naturally, the figures are of value in direct proportion to the number of firms participating. We feel that the figures are conservative, that is they err on the low side if they err at all.

* * * * *

SALES UP. . . . Sales of detergents and soaps for the first quarter of 1957 showed another upward move to a new record, according to Soap Association figures. Total sales volume moved up 12 per cent over the fourth quarter of 1956 and 2.6 per cent over the first quarter a year ago. Dollarwise, sales were up 17.2 per cent over the fourth quarter of 1956 and 9.9 per cent ahead of the first quarter of last year. For the first time since 1951, soap sales reversed their downward trend. They were up one per cent over the comparable quarter of 1956 and 6.5 per cent over the last quarter of 1956. In dollars, soap sales were up 10.7 per cent and 10.1 per cent, respectively.

In spite of the fact that increases were noted

BLOCKSON



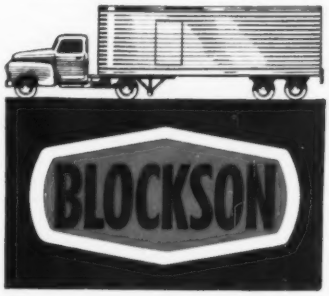
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You can buy all BLOCKSON chemicals in mixed carloads. ONE ORDER does it. ONE STOP delivery. ONE PHONE CALL for any schedule changes . . . carload prices on each chemical. See the list below.

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. . . SAME ADVANTAGES FOR MIXED TRUCKLOAD BUYERS



WAREHOUSE STOCKS AT ALL BLOCKSON DISTRIBUTORS

in toilet soap, yellow bar soap and potash soaps, synthetic detergents continued to take an ever increasing share of the "soap" market. Close to 70 per cent of the tonnage of the entire market, 69.5 to be exact, went to the synthetics. This represented 67.1 per cent of the dollar market. The increase in liquid detergent sales was notable as part of this advance.

Reversal in the downtrend in soap sales leads to some speculation. Has the advance of synthetic detergents run its course and are the relative proportions of sales likely to remain pegged at or close to present levels for a few years? There are those who view the answer both ways. We're inclined to believe the synthetic up move will continue.

* * * * * *



UNEXPECTED. . . . Insecticide manufacturers, especially producers of stock sprays, were somewhat taken aback by the sudden and unexpected withdrawal by one branch of the Department of Agriculture of recommendations for the use of methoxychlor and lindane in cattle sprays. This step by USDA came as a bolt out of the blue to both makers of finished insecticides and the suppliers of the basic chemicals. In the past, the usual procedure has been for the Department to consult with industry before taking a drastic step of this nature. But this time, the withdrawal of approval came as a complete surprise to just about everybody involved.

The complications and consternation which may arise from a decision of this type are bad enough, but the way this matter has been handled by USDA adds to the confusion. Other than a statement by a representative of the Entomology Research Service before a branch meeting of the Entomological Society of America nearly three months ago, no public announcement of the withdrawal has been made, as far as we can determine. Secondly, while the recommendations have been withdrawn, cattle sprays containing lindane and methoxychlor can still be registered with USDA!

Is it any wonder insecticide manufacturers with a considerable tonnage of raw materials on hand and some millions of gallons of finished products in their own warehouses and in the channels of the distributing trade are worried?

We feel that in the interest of plain justice, USDA should reopen this matter and let industry in on the secret of what it's all about.

* * * * * *



REPELLENTS. . . . The development of diethyltoluamide by the Entomological Research Division of the U.S. Department of Agriculture could be, to our way of thinking, one of the most important things yet to come out of USDA research. If what we hear about the product be true, the advent of DET could mark the beginning of almost a new era in insect control, a boon to man and animal.

For well over forty years, the aim of entomologists and insecticide chemists has been a true insect repellent, a product which completely repels and not one which kills the insect *after* the insect has bitten or stung its victim. To cattle and stockman, such a product could save millions in loss from insect depredations. To the worker, the sportsman and others exposed to insect attack, and as a preventive of insect borne diseases of man, the possibilities seem almost unlimited.

Not that DET is the only effective insect repellent available today,—nor is it the perfect product for all purposes. But recent attention focused on its development seems to have brought insect repellency more sharply to the front. And it is here, we feel, that future strides in insect control will be made.

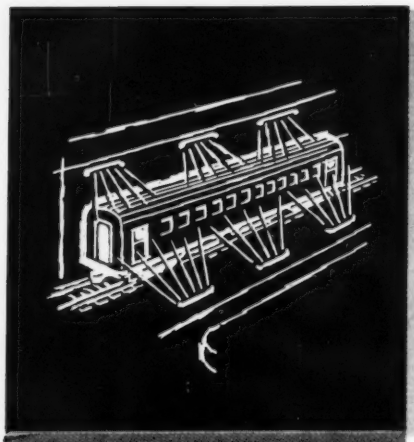
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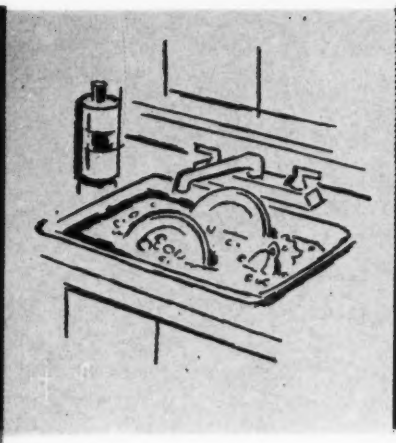


CULPRIT . . . Not household insecticides, nor ammonia, nor furniture polish, nor cleaning fluids, nor drain cleaner, nor a hundred and one other household chemical specialties pose the major poison menace to small children. Good old medicine-cabinet aspirin is the chief culprit, according to facts brought out at a recent meeting of the American Academy of Pediatrics in Washington. Over 100,000 children each year are sent to hospital emergency rooms because they have taken aspirin in excess, mostly children under four years of age.

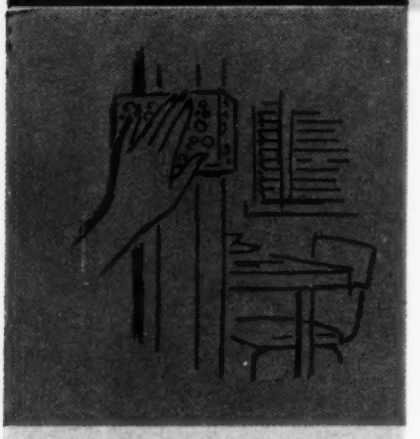
The fact that it is a drug product, rather than a chemical one, which poses this problem in the

(*Turn to Page* 190)











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...all-around all-surface cleaner

TRITON X-100 is unique in its overall soil removal and redeposition efficiency on textiles and hard surfaces of all kinds. Because it is also non-toxic and non-irritating in "use" concentrations, its high detergency can be put to use in everything from metal cleaners and scrub detergents to liquid dishwashing and lingerie detergents. TRITON X-100 is just as versatile in its formulating possibilities. It is compatible with alkaline builders, sanitizers and other surfactants . . . can be incorporated in powdered or liquid preparations.

Chemicals for Industry

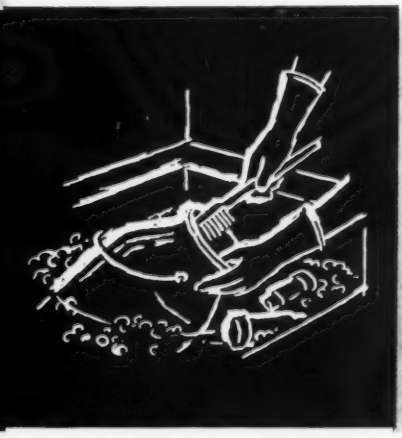
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as the reader sees it . . .

"Vaseline" — Again

Editor:

With regard to the letter to you from Mr. F. I. McGroarty, secretary of Chesebrough-Ponds, Inc., New York, which was published in the April issue of *Soap and Chemical Specialties:*

We find it a most extraordinary letter and one which suggests or reveals that this company is not aware of the fantastically successful propaganda waged by its predecessors, at least in England; in the days when cosmetics still consisted of petroleum jelly, benzoated lard, gum trag., etc.

If they were to send out a questionnaire to any town in England and ask the people what "Vaseline" is, I would guarantee that 90 per cent of them would say it is well – er "Vaseline!" The other 10 per cent would say it is a yellow petroleum jelly. They would not even be aware that it is a trade name. They would construe that anything bearing the word "Vaseline" on its label naturally contains "Vaseline" (i.e., yellow petroleum jelly).

The point does arise, of course, that in fact, Chesebrough may be only too well aware of the value of the trade name and is only, naturally, too anxious to cash in on it for their other products. Hence the letter from Mr. McGroarty.

E. S., Lower "Malvern"
6 Wistow Rd.
Selby, Yorks, England

★

Norway Soap Figures

Editor:

On page 47 of the March issue of your publication you gave a most interesting list "of the leading nations of the world with their populations, pounds of soap and detergents used per year and the per capita consumption." Considering the fact that Panama, Eire, The Dominican Republic, Guatemala, New Zealand and Uruguay with populations ranging from 900,000 to 3,300,000 are included in the list, I feel a little annoyed on behalf of my country that you have forgotten Norway.

We in this country do not claim to be one of the leading nations in the world except in the shipping, whale catching and in the income tax field, but we no doubt have a soap consumption which should place us as number nine in your per capita consumption list.

Possibly you do not have the figures from our country, but here they are for 1956:

Population – 3,250,000.
Soap consumption – 70,200,000 lbs.
Per capita consumption – 21.6 lbs.

The figures include powdered and liquid detergents, scouring and cleansing powders and soaking powders as well. As for the syndets, the figures cover *production.* For all other products, however, *sales* figures have been used.

There is one important fact which should be considered when comparing different countries. This fact is hard vs. soft water. Norway is one of the typical soft water countries of the world, approximately 90 per cent of the population having water lower than two grains per U.S. gallon. Taking the soft water into account, Norway should be considerably nearer the top of the ranking list than the present number nine. You have mentioned the influence of hard water yourself when discussing the Belgian figures.

As you will be aware, Norway is not an underdeveloped country in the cleanliness field. I, therefore, sincerely hope to see our figures in your ranking list the next time.

In our organization we know the difficulties in procuring the necessary information regarding the soap consumption of different countries. The O.E.E.C., however, has considerable information in this field.

As for our country, don't hesitate to contact our organization the next time you are in need of figures regarding soap consumption in Norway.

Dr. M. Sethne, chairman
Norwegian Soap Makers Organization

(*Turn to Page* 107)

Appreciation: G. E. R. "Dick" Flynn, right, vice-president and sales manager of the Drake Hotel, Chicago, receives oil painting of himself from H. W. Hamilton, left, secretary of the Chemical Specialties Manufacturers Assn. during recent 43rd midyear meeting of CSMA at the Drake. The association, which has been holding its midyear meetings at the Drake for many years, gave Mr. Flynn the portrait, as token of its appreciation for the fine service the hotel has rendered. Artist M. Lemmermeyer, head of Aromatic Products Co., New York, did portrait from snapshot of Mr. Flynn.





Now get BOTH from Hooker —with ONE order

Caustic soda . . . caustic potash. Using both? Streamline your purchasing by ordering both from Hooker.

One order, one billing, one responsibility—simplify operations and save your time.

You can get Hooker caustic soda in 50% and 73% solutions; in four flake sizes (regular, fine, crystal, powdered); and solid.

When you specify NIALK® caustic potash, produced by Hooker, you're in good company. Nearly half the tonnage used in this country is NIALK caustic potash. You can purchase it as a liquid (45% to 52%); solid, flake, or granular (85% and 90%).

For complete data on either chemical, write us today, or phone the nearest Hooker sales office.

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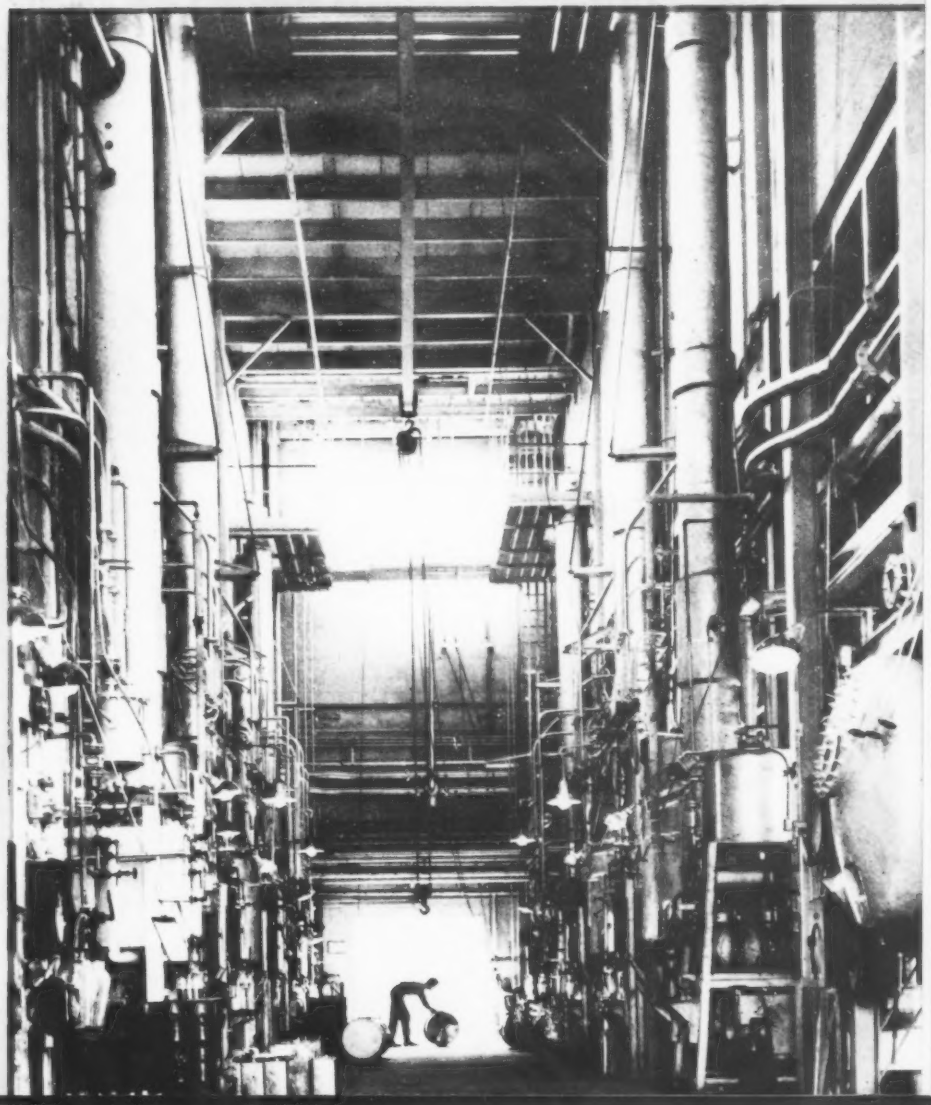
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Glycerine
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Liquid soaps
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Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Medicinal soaps
Textile detergents
Toiletries
Toilet soaps and other detergent and soap products

A view of the newly enlarged distillation building at the Union Beach, N. J., plant of van Ameringen-Haebler, Inc., New York. Growing demand for aromatic chemicals in soaps, detergents and specialties necessitated unit's expansion.





JEFFERSON

MONO
DI | ETHANOLAMINES
TRI | ...for detergent reactions

Monoethanolamine and Diethanolamine will react with acids, acid anhydrides, acid chlorides, or esters to form ethanolamides. With acids, the first product is an ethanolamine salt which is subsequently dehydrated by heating it above 180°C.

$$RCOOH \cdot NH_2CH_2CH_2OH \xrightarrow{\triangle} H_2O + RCONHCH_2CH_2OH$$

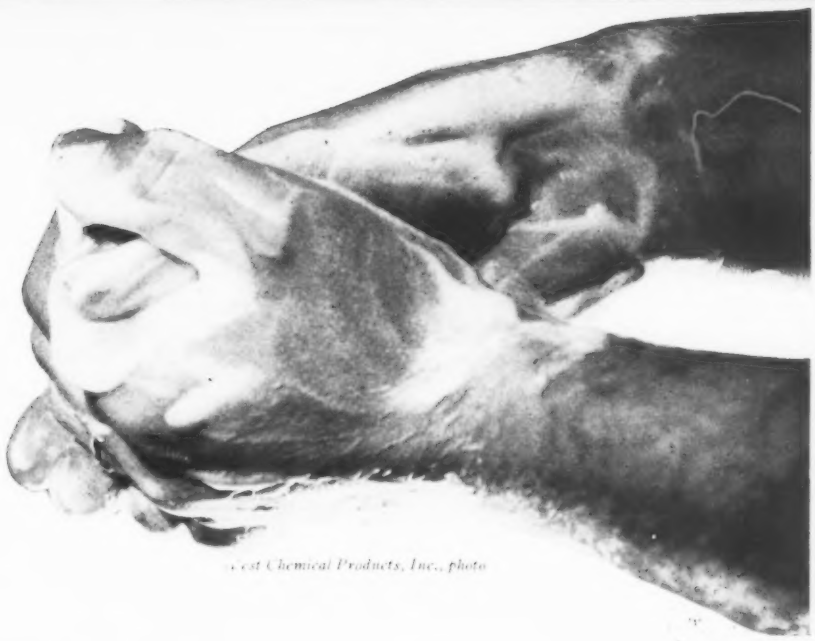
With fatty acids, the product obtained by heating at 180°C. is the amide, while at 150°C. a mixture of amide and ester results. Side reactions can occur which lead to diethanolpiperazine and related compounds. Sulfonates of the ethanolamides of fatty acids are particularly useful in the preparation of detergents.

For more detailed information, write Jefferson Chemical Company, Inc., 1121 Walker Avenue, Houston 2, Texas.

Essential Chemicals from Hydrocarbon Sources

Jefferson
CHEMICAL COMPANY, INC.

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West Chemical Products, Inc., photo

Waterless Hand Cleaners

By Willis J. Beach*
Sugar Beet Products Co.
Saginaw, Mich.

WATERLESS hand cleaners represent a good example of a chemical specialty that has gone quite beyond its original conception. Although formulated at first simply for the removal of the greasier and more heavily embedded soils, these products are now meeting a wide variety of soil problems out on the production line and in other areas where water is not available. They have become a standard commodity in wide use today in industry where their advantages are now widely recognized.

The name *waterless* hand cleaner is sometimes confusing. The products, of course, contain water—but are so formulated that they do not need additional water to remove soil. They are simply rubbed on the hands, worked into the soiled areas until the soil is loose, and wiped off. They may be made rinsable.

There is no reliable information available on the extent that these products have penetrated the industrial hand soap market. It has been estimated that they now enjoy about 10 per cent of this market. (1) Their second largest outlet is claimed to be the automobile specialty trade. They have further potential in the household and hobby field and a considerable amount is sold to public works, utilities and the transportation industry.

Most waterless hand cleaners on today's market are emulsions running in consistency from a stiff gel to liquid. Their principal mode of cleaning, we believe, is by solvency. Being based on a variety of solvents from kerosene to mineral oil, they tend to solubilize heavy greases, tars, fresh paints and the like, and remove them much more effectively than does soap and water. Fortified with synthetic detergents and other additives they do a good job of removing most industrial soils. They are not, as a class, too effective yet for the removal of lacquers, some dyes, the epoxy resins and certain of the inks, and have to be specially formulated for these purposes.

One convenient way of classifying these products is in terms of the solvent or oil used as a base. Such a breakdown might take in the following:

Class I: Products of the kerosene or Stoddard solvent base.

Class II: Products of a mineral oil base.

Class III: Products based on solvents of the non-petroleum oil type, such as glycols, ketones, esters and other special solvents.

Class IV: Products based entirely on mixtures of surface-active agents.

Some products contain ammonia and they tend to be found under Class I above. There are, of

* Paper presented before the 43rd midyear meeting, Chemical Specialties Manufacturers Association, Chicago, May 22, 1957.

course products representing various combinations of the above classes. Surface-active agents are found as additives in Classes I, II and III to enhance soil removal and promote better emulsification of the product.

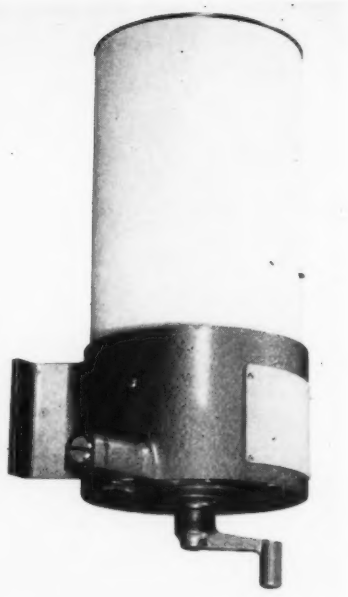
In a very general way, each of these classifications has somewhat different characteristics of cleaning power, safety and general acceptance. For example, Class I seems to clean well, but the use of kerosene is frowned upon by many dermatologists. Class II is considered safe, but the mineral oil products need builders to improve soil removal. Class III is generally quite specific in cleaning power, but cannot be judged, as a class, regarding safety. Class IV in most cases is composed of products that require water for adequate removal, and in this sense are not truly waterless cleaners. They are not too effective on greasy soils.

Physical Characteristics

WATERLESS hand cleaners of the emulsion type are mostly of the oil-in-water, variety although the two phases cannot be so accurately characterized in some of the products. When rubbed onto the soiled hand, the emulsion breaks and the product, if a gel, liquefies releasing the oil and water each to do its respective cleaning job. This break results in part from the more rapid evaporation of the water phase which destroys the phase volume ratio. If the hand is already wet with water, the break is sometimes greatly retarded.

History of Development

ACTUALLY, hand cleaners of the waterless type have been on the market for many years. Early formulators seeking a cleaner of high solvent power and greater cleansing ability, particularly for the greasy, gummy and resinous soils – hard to remove in the presence of water – placed emphasis on high solvency. The *safety* aspects were somewhat overlooked. It is evident from examination of various formulas for waterless hand



Proper dispensing is important economic factor in waterless cleaner acceptance by industry. Large gallon-size unit shown here is mounted near production line to encourage cleanliness and save trips to washroom.

cleaners compiled by the late Milton Lesser (2) that the compounders depended on the use of beneficial emollients to offset the dehydrating and defatting action of these solvents, but their skin sensitizing and irritating qualities still prevailed. Back in this era, the popular solvent was kerosene, because it did an effective cleaning job and was cheap. It was emulsified by ammonia soaps which were cheap and effective for such purpose. The combination of odors did little to enhance the acceptance of these products.

First major advance was the use of odorless petroleum distillates followed by the use of liquid petrolatum, and other solvents not derived directly from the distillation of crude petroleum. Also, soaps of organic ammonia derivatives, such as the alkanolamines being used in the cosmetic field, replaced ammonia and the alkali metal soaps as emulsifiers. Couplings of balanced emulsifiers of various types found their way into use. Stability to heat and cold was improved. A number of ways of doing this are apparent from application of the Stokes equation to problems of emulsion stability. (3) Homogenization and a trend toward the modified floral types of odors are moving the product more toward cosmetic quality.

A satisfactory product has a pleasant odor and a uniform appearance. It must be of suitable consistency for its mode of dispensing and remain stable for long periods of time under extremities of hot and cold weather. It should break rapidly, remove many types of soils effectively and safely without irritation or excessive drying under use conditions. It must create a pleasant, non-greasy after-feel.

Testing and Evaluation

LABORATORY examination of waterless hand cleaners may take the form of chemical tests, application or performance tests and safety tests. Each has its pitfalls.

Chemical Tests: These emulsions can be analyzed for constituency by phase separation followed by specific tests on the water and oil phases. Most water-immiscible solvents, excepting liquid petrolatum, can be easily separated and recovered in fairly pure form by steam distillation at atmospheric pressures.

By making emulsions strongly alkaline with caustic solution, ammonia can be determined by collecting the distillate in a standardized acid solution; or alkylol amines can be separated and further identification made by the use of copper sulfate or other techniques. (1) If there is considerable foaming, it is usually necessary to remove fatty acids by breaking the emulsion with a mineral acid and boiling to separate the oil and fatty acids.

A simple Engler distillation range test will not in itself establish the solvent as a kerosene, for there are other solvents in the same boiling range. However, the aromatics and olefins normally present in kerosenes can be detected or estimated by spectrophotometry, gas chromatography, or by the A.S.T.M. methods for aniline point, Kauri-Butanol value or Bromine number.

The fatty acid-oil layer may be used for the determination of

cholesterol and the estimation of lanolin therefrom. (5)

Halogenated solvents may be detected by the Beilstein copper wire test. Presence of grit can be detected by pressing a small quantity of the cleaner between two microscope slides and rotating. Alkaline salts may be determined if there is water-soluble material in the alcohol-insoluble matter; and water content can be determined by the xylene distillation method. (6)

pH may be determined by the glass electrode and it would seem more realistic to determine it on the product "as is" rather than dilute it with water.

There are certain pitfalls in the analysis of these products, however. For example, *free* fatty acids cannot be determined on these products stabilized by fatty acid-amine soaps by simple titration in alcohol as is the case with soda soaps. The method in this case indicates *total* fatty acid. If no inorganic soap or salt is present, the fatty acid and the amine can be titrated separately to determine which is in excess. (7)

Application tests: The best application test is to try the product under use conditions on a soil involved. However, laboratory tests can be useful to measure cleaning efficiency of several cleaners. These usually involve a measurement of the comparative degree of soil removal. Here standardization of all factors involved is necessary. There are many kinds of soil involved in industry. Rather than attempting to select a "representative" soil, we have picked one that can be removed but with some difficulty by most of the products. As an example, let me describe the test used at our laboratory at present.

The soil consists of a commercial petroleum asphalt "Korite No. L" (Standard Oil Co. of Indiana). This is made up in a 10 per cent solution in a rapidly drying solvent-petroleum ether. This soil must be kept in tightly sealed bottles to preserve concentration. The hands are washed and dried thoroughly and after five minutes five drops of this oil are applied to the back of each hand with a medicine dropper. The soil is spread around with a stirring rod until it occupies an area about the size of a half dollar. With a fast drying solvent, a drying time of five minutes is sufficient.

A 0.2 gram sample (plus or minus .05 grams) is applied to the soiled area. This amount closely approximates the amount normally on an area of this size when the hands are washed in industry. The cleaner is then rubbed into the soiled area with the tip of the index finger of the other hand in circular direction at about two rps. for thirty seconds. The "break" time is recorded (i. e. the time when the product liquefies on the hand during rubbing). After thirty seconds, the soiled area is carefully wiped with an absorbent paper towel to remove cleaner and loose soil. The per cent soil remaining is estimated visually. We seem to achieve better uniformity by standardizing on rubbing time instead of measuring the time necessary for complete removal of the soil.

Safety tests: It seems to us that the most reliable criterion of safety is met if a product enjoys widespread usage in industry over a long period of time with a good safety record. There will be occasional sensitizations or other adverse reactions. A few of these over a long period of time are to be expected.

Two dermatologic tests described by Dr. Donald Birmingham of the U. S. Public Health Service

Careful quality control helps insure safety and stability. Consistency of a waterless hand cleaner is measured by laboratory penetration tests on samples from production run.



appeal to us. There appears to be a considerable degree of reproducibility possible with different observers using the visual grading techniques under the microscope as described in Dr. Birmingham's report, "Evaluation of Waterless Hand Cleaners." (8)

The pH restitution test appears to us to have some significance. This test measures the time required for return of the normal pH of the skin after use of the cleaner. If the period of time necessary for the skin to rebuild its protective mechanism is greater than the period between applications of the cleaner then we may be in for trouble. We have a situation where frequent and prolonged use causes the protective mechanism continually to lose an increment of protective capacity with eventual damage to the skin.

In order that restitution times be realistic, sample size should be selected to give about the same concentration of cleaner on the test area as exists in practice. Then, pH and buffering value of the product itself will have the proper influence on the results. We would judge this to be about four milligrams of cleaner per square centimeter of skin area. Also, we have been advised that pH restitution tests run in the summer should not be compared with those run in the winter, when sweat glands are more or less dormant.

It seems to us that the closed patch test can offer misleading results. (9) We use this test to screen various products investigated in our laboratory, but leave the patch on only long enough to indicate differences in reaction. It is useful for screening out the worst offenders. However, it would be a case of misapplication of the patch test to condemn a waterless cleaner well known to have been widely used for many years without adverse effects because of irritation arising from a patch test applied under more rigorous conditions than in actual use.

The property of rinsability in a waterless cleaner has some merit, particularly under certain circumstances involving irritating soils, hard or inconvenient to remove by conventional hand washings. It is our opinion that the factor of rinsability may be incorporated into a waterless cleaner providing it does not impair its desirable functions. It should also be pointed out that when waterless cleaners are used frequently and rinsed off, a very high degree of detergency occurs. Both soil and skin protective substances are largely removed and the re-deposit of emollient built into the cleaner is not as great. You have a feeling that there is nothing left but clean unprotected skin! This may not be a desirable procedure over a period time, especially during the winter months.

Psychological Factors

GRANTED that there are products with a greasy after-feel, we wonder about many of the comments we hear about waterless cleaners being sticky, leaving fingers too slippery to punch keyboards, smudging and fingerprinting paper, contaminating glassware and metal surfaces. We have had as many comments to the contrary. It is largely a matter of getting accustomed to the use of a well formulated waterless cleaner, and taking the time to wipe it off thoroughly. Tests run in our own laboratory indicate that there is actually an average of 55 per cent reduction in ether extractable material two minutes after washing with a commercial waterless cleaner and *wiping carefully*. Two hours after being washed, the average recovery of ether extractable was about 100 per cent.

Also, if a period of at least two minutes is allowed before a subject is questioned about the after-feel, there will be a definite difference in after-feel between greasy products and those leaving the hands feeling more normal. In short, the motives behind the opinion of "unpleasant after-feel" can be quite oblique. They can even stem from a dislike of the product's odor.

Waterless cleaners are occasionally offered as poison ivy preventives to attract buyers in the public utility fields. Claims are *preventive* rather than curative in nature. We doubt that "special" or "secret" ingredients or specific preventives for this type of sensitization are included in the formulations. The active ingredients in these plant poisons are polyhydric phenols. They can be rendered ineffective by the use of mild oxidizing agents. We believe the waterless cleaners function simply as excellent solvents for these irritating oils removing them effectively and immediately on location.

Specification Buying

GUIDANCE should be offered those attempting to set up a specification for buying waterless cleaners. Several manufacturers have offered proposals as to a model specification. The interim Federal Spec. PH-0031 of the General Services Administration dated 27 October 1955 offers a fairly suitable working specification. Certain areas in this specification have been pointed out for consideration of revision, which is being done at present by one Government office.

One of the difficulties of specification buying facing the Government and any large multi-plant buyer is that procurement under a general specification tends to limit packaging to containers for use without dispensers. There are some excellent dispensers available and their use is much preferred in industry for low maintenance and use costs. Unlike most liquid and powdered soap dispensers, waterless dispensers differ widely in design and usually a product packaged for one dispenser will not be dispensed by another. The answer probably is a clause permitting local purchase of a product meeting the specification but packaged in a container fitting the dispenser already installed.

It is likely that trend in technology will be more toward products of a cosmetic quality. There is

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Polymeric Nonionic Surfactants

Versatility distinguishes polymeric ethylene oxide nonionics, owing to wide potential range of molecular structures and properties. They combine low foam with good dispersing power.

By Warren B. Stanton*
Wyandotte Chemicals Corp.
Wyandotte, Mich.

ALL surface active agents are composed of both hydrophobic and hydrophilic portions. Unlike the anionic and cationic types, the nonionic surfactants employing an ethylene oxide condensate as the water soluble constituent of the molecule have a hydrophile that can be varied by regulating the ethylene oxide addition. One degree of freedom of variation in molecular structure is obtained through the use of an ethylene oxide condensate as the hydrophilic portion of a nonionic surfactant, but there is relatively little freedom of choice for the hydrophobe. The hydrophobic bases are limited to those materials that are available commercially at a price that makes them practical for use. A truly homologous series of fatty acid, fatty alcohol, or alkylaryl hydrophobes is impractical for economic reasons so the number of really different hydrophobes is quite limited. The inherent limitations of the previously used hydrophobic bases are overcome by the "block polymer" surfactants which have a variable polyoxeric hydrophobe having all the versatility of the polyoxyethylene glycol hydrophile. This new type of nonionic surfactant introduces two degrees of freedom in molecular structure and virtually squares the number of possible hydrophobe-hydrophile combinations.

Versatile Nonionics

THE first series of nonionic "block polymer" surfactants employing a series of hydrophobic polymeric bases was introduced in 1950 (1) when Wyandotte Chemicals Corporation announced its "Pluronic"** surfactants based on polyoxypropylene glycol as the hydrophobe. This new class of nonionic surface active agents was conceived with the discovery that condensates of ethylene oxide with polyoxypropylene glycol having a prescribed minimum molecular weight were remarkably effective surfactants. Investigation revealed the minimum effective molecular weight of the polyoxypropylene glycol base to be about 800 to 900. Polyoxypropylene glycol offered, for the first time, a hydrophobic base that could be made in an almost infinite number of molecular weight ranges differing by small incremental additions of propylene oxide. The molecular control that was formerly obtainable only in the hydrophilic portion of the molecule by condensing ethylene oxide could now be applied to the hydrophobic base through condensation of propylene oxide. The addition of ethylene oxide to each end of the long oxypropylene block resulted in a series of surface active agents having not only a new chemical structure, but also an exceptionally wide range of molecular weight and hydrophobic-hydrophilic balance, which in turn resulted in an equally wide range of physical properties.

Molecular Control

THE first series of "block polymers" based upon the new hydrophobic base was formed by condensing propylene oxide onto propylene glycol to give a series of hydrophobes of controlled molecular weight ranging from 800 to 2,500. Various amounts of ethylene oxide were then added to the hydrophobic base to complete the formation of the surfactant. Because the chain length of both the hydrophobic and the hydrophilic blocks could be controlled with precision, it was possible to plot the chemical structure on a graph by plotting the hydrophile against the hydrophobe.

A graph in the form of a grid depicting a typical series of

* Paper presented before 43rd midyear meeting, Chemical Specialties Manufacturers Association, Chicago, symposium on ethylene oxide nonionics, May 21, 1957.

** Trademark of Wyandotte Chemicals Corp.

"block polymer" surfactants is shown in Figure 1. Various molecular weight ranges of the hydrophobe from 800 to 2,500 are arranged on the vertical axis and each is arbitrarily assigned a number. This number is the first digit of the number identifying the finished surfactant, and all members of the series having the same hydrophobic polymer block have the same first digit. Ethylene oxide can be added to each end of the base to form polyoxyethylene polymer blocks of varying and controlled length so that almost any ratio of hydrophile to hydrophobe can be obtained. To identify the amount of ethylene oxide that has been incorporated in the total molecule, a second number suggesting the per cent of ethylene oxide is used. These new numbers form the horizontal axis of the grid and constitute the second digit of the number identifying the surfactant.

To complete the nomenclature system, a letter, L, P, or F can be added to identify the product as a liquid, paste, or flake. A material having the designation "L64", for example, would be a liquid having a hydrophobe of molecular weight corresponding to the "6" series, and about 40 per cent of the total molecule would be composed of ethylene oxide adduct. Using this system of nomenclature, any member of the series can be plotted on the grid in a position indicated by its number and "tailor made" surfactants can be ordered by number when a particular molecular structure is desired.

Grid Screening Method

HAVING constructed a series of "block polymers" having incremental changes in molecular weight as well as hydrophobic-hydrophilic ratio, it is possible to observe the changes in physical properties as small changes are made in the molecule. The property changes can be plotted as areas of effectiveness on the grid or as trends across the grid. By testing two or three members of the series, it is

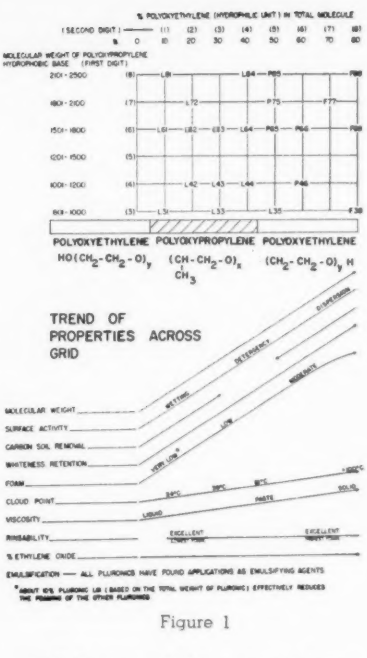


Figure 1

possible to establish a general trend for any given property and thereby avoid much unnecessary testing in unproductive areas of the grid.

This systematic screening technique, which can be called the "grid approach," is not only a relatively simple and efficient method of selecting the best member of the series for a particular application, but it also provides a method for studying some of the other unknown factors often present in formulations or processes. A study of the effect of increasing molecular weight of the "block polymer" nonionic in a detergent system, for instance, may reveal information about builders that would not be revealed in a haphazard "cut-and-try" technique that merely indicates the nonionic is satisfactory or unsatisfactory. Screening using the grid approach introduces known, controlled variables and the data obtained can be correlated in a systematic manner. Only the "block polymer" type nonionic surfactant lends itself readily to this type of rational screening in which property trends are used to select the exact molecular structure having the optimum balance of properties.

The polymeric surfactants that have been developed to date have several performance characteristics as a class that differentiate them from other surfactant classes. The principal characteristic is the trend of properties which is unique to the class. In addition, the molecular weights are very high, and products are now available ranging in weight from about 1,000 to 27,000. This, of course, is many times as great as other surfactants. The foam generated by the polymeric surfactants is moderate to almost nil, and the cloud point varies from quite low to none in boiling water. The dispersing properties improve with molecular weight, and the higher members of the class are excellent pigment and dye dispersants. In addition, the high molecular weight products are made in solid or flake form and thus are particularly well suited for dry blending with other materials. The flake products generally are tasteless and apparently have an exceptionally low order of toxicity.

Other Nonionic Series

THE series shown in Figure 1 is only one of many possible series based upon the same concept of a polyoxypropylene hydrophobe. Another series with the trade-mark "Tetronic"*** is now available based upon ethylene diamine as the starting nucleus. (2) In this instance the four available hydrogen atoms on the two amine groups are utilized to start the condensation of propylene oxide, and four polyoxypropylene branches are produced. Ethylene oxide is then reacted with the base and a branched "block polymer" having four hydrophilic tails and one hydrophobic central portion is produced. The "Tetronic" series has properties generally similar to the "Pluronic" series except that molecular weights up to 27,000 are possible. If a monofunctional nucleus such as butyl alcohol is used to start the condensation of propylene oxide, (3) a series with the hydrophobe on one end rather than in the middle can be made. Figure 2 shows

*** Trademark of Wyandotte Chemicals Corp.

the basic molecular structure of "block polymers" initiated with ethylene diamine and a monofunctional alcohol.

It is interesting to observe that in addition to being surface active agents, these "block polymers" are polyethers terminating in primary hydroxyl groups. This makes them interesting as polyols for use as intermediates in the manufacture of polyurethane plastics or as alcohols for use in esterification reactions. Many of the possible chemical derivatives have not been fully investigated although they appear to hold interesting commercial promise.

Applications

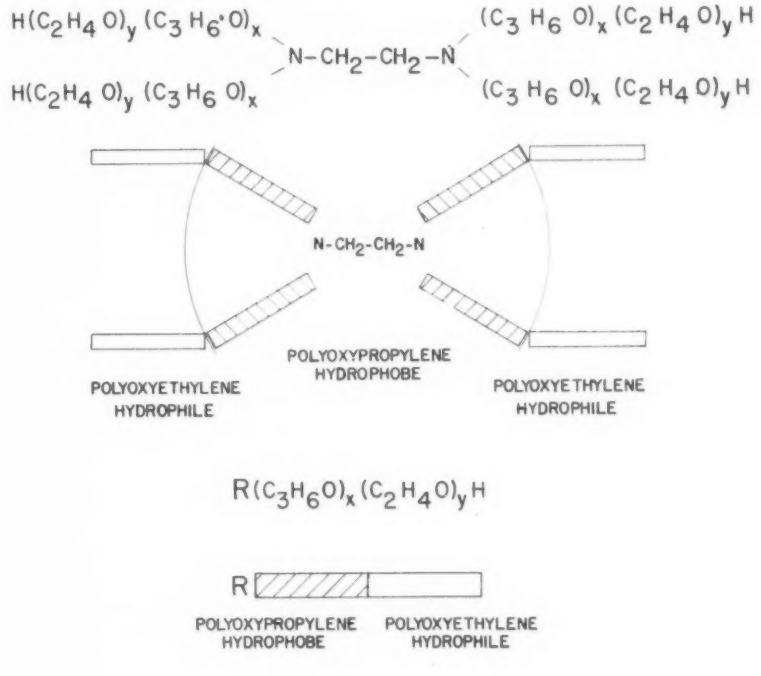
AS surface active agents, the "block polymer" types are finding their greatest use in applications where their unique properties give them a performance advantage. Their low foaming properties make them suitable for use in controlled foam laundry detergents, machine dishwashing compounds, rinse aids, metal cleaning compounds, and as foam suppressants in many formulations and processes. The very good dispersing and suspending properties of the higher molecular weight products make them useful in scale removing compounds and as pigment dispersants in latex paints. The total number of different applications for the "block polymer" type of nonionic is unknown, but just before introducing the "Pluronic" series in 1950, the market development department at Wyandotte Chemicals listed 57 possible uses. A short time later chemists in the field had found over 400 uses and the number is still increasing.

Summary

THE "block polymer" type nonionic surface active agent formed by sequential addition of propylene and ethylene oxides on a suitable nucleus such as propylene glycol, produces a class of nonionics having a controlled range of chemical structure and a range of properties not found in other nonionic types. The chemical structure can be plotted graphically and the properties of the series can then be related to the graph as trends or areas of maximum performance, the performance being a function of hydrophobic-hydrophilic balance and molecular weight.

Only the "block polymer" surfactants can be made with such a wide range of molecular structure and physical properties. The principal commercial uses for these surfactants are in instances where their unique properties, or combination of properties, such as very low foam, excellent dispersing action, or flake form can be utilized.

Figure 2



TYPICAL BLOCK POLYMER SURFACTANTS

References

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2. Lundsted, L. G., U. S. Patent 2,674,619, assigned to Wyandotte Chemicals Corp.
3. Jackson, D. R., et al, U. S. Patent 2,677,700, assigned to Wyandotte Chemicals Corp.

★

Anti-Mist Compound

Mistiness on glass surfaces is prevented or retarded by the use of a mixture containing ground or powdered soap nuts, a synthetic detergent, methylated spirit, and water. This composition may be prepared in paste, cream, or liquid form. It may be applied to surfaces of all kinds of glass, such as mirrors, lenses, windshields, etc. It is said to prevent or retard development of mistiness even under conditions of extreme humidity. British patent 762,692. S. & S. Drucker, Northampton, England.

★

New Belt Conveyor

Conveyor Specialty Co., Quincy, Mass., recently introduced a new "Unibilt" belt conveyor designed for heavy duty industrial use. The unit consists of seven basic parts which may be joined to produce various combinations. Belts come in widths of 18, 24 and 30 inches and are said to match corresponding widths of live and gravity roll as well as slider-bed belt units, to form an integrated conveyor system.



Arnold L. van Ameringen, chairman and founder, van Ameringen-Haebler, Inc.

VAN AMERINGEN

A brief history of the company and the man after forty years in the perfuming materials field

FORTY YEARS AGO, on May 30, 1917 to be exact, A. L. van Ameringen arrived in New York from Rotterdam. Although young in years, he had been appointed a United States representative for a fine old Dutch essential oil and perfume materials house. Today, as chairman of the board of van-Ameringen-Haebler, Inc., he is one of the best known figures in the world perfume materials industry and among manufacturers everywhere of soaps, detergents, cosmetics, chemical specialties, drugs and foods. And he has built a business which has become one of the leaders in the field and the growth and development of which have paralleled the wide expansion in the use of perfuming materials.

May, 1917, was not a particularly favorable time to start a business enterprise in the United States, especially one dependent on world trade in essential oils and fragrance materials. It was in the midst of World War I and most essential oils were not produced. Those which were produced had difficulty finding their way to market, especially to the American market. Blockades and commerce raiders took their toll. But it was during this period that the first seeds of a strong American aromatic chemical industry were sown.

In spite of adverse conditions, in late 1918, van Ameringen decided to start his own business. He opened an office and warehouse at 13 Gold Street in New York. It was an old-fashioned walk-up loft building and his office was on the sixth floor. Success for the new venture was far from immediate. He had his share of troubles, but managed to struggle along for a few years gradually expanding his staff. In 1928, he set up a small laboratory and manufacturing unit at Orange, N. J., his first step into actual manufacturing. During the previous year, 1927, the firm had been incorporated as van Ameringen, Inc.

During his first ten years in America, van Ameringen became quite widely known as "Van" to customers and competitors alike. The name has stuck down through the years. And he is considered in the trade, one of the greatest salesmen of perfuming materials ever to hit the American market—this by the frequent admissions of his competitors.

To drop back a few years, Van in May, 1920 married Hedwig Pfaltz whom he had met on the dock in New York when he arrived from the Netherlands. It so happened that Miss Pfaltz was the daughter of Henry Pfaltz, then president of Pfaltz & Bauer, Inc., New York, an old and well known importer of chemicals and essential oils.

In 1929, van Ameringen, Inc. was merged with Morana, Inc., one of the then leading manufacturers of aromatic chemicals. Van became president of the new firm and was joined by the late William T. Haebler as treasurer. The Haeblers at the time were virtual owners of

Morana. The newly merged firm became van Ameringer-Haebler, Inc. which name has continued for 28 years.

When Van merged with Morana, he took over the manufacturing and laboratory facilities of the firm at Elizabeth, N. J. This plant continues as one of the van Ameringen-Haebler production units, today being the center of the firm's flavor manufacturing facilities. The Orange laboratories were moved to Elizabeth.

Expansion continued. The Elizabeth plant was enlarged, but the company outgrew its facilities and in 1950, a large tract of land was obtained near Union Beach, N. J. for the purpose of building a new large plant and with ample room for future expansion. In 1952, a gradual move of aromatic chemical manufacture to Union Beach began. Present plans call for continued growth of production, research and development facil-

Charles P. Walker,
President



Alec J. Dedrick,
Vice-president



Felix K. Goudsmit,
Vice-president



James H. McGlumphy,
Vice-president



Waldo F. Reis,
Vice-president



Ernest Shifton
Vice-president



Charles O. Tanc,
Vice-president



Fred W. Webster,
Vice-president



Sidney Friend,
Secretary-treasurer





Literally thousands of different types of synthetic and natural materials are available for the perfume chemist to choose from.

ities, and the company boasts one of the most modern aromatic chemical plants in the world. Several new buildings and manufacturing units have been added during the past two years.

With the steady switch from natural products to synthetic aromatics which has marked the perfuming field during the past decade or two, van Ameringen-Haebler continued to expand the number of products manufactured as well as the means of distributing them. In addition to plants at Union Beach and Elizabeth, N. J., the company has offices and warehouse at 521 West 57th St., New York. It has subsidiaries in Toronto, Canada, and in Paris, France, as well as branch offices in Chicago.

In outlining recently some of the changes which have taken place in the world of perfuming over the past thirty years, Sidney Friend, for many years secretary of van Ameringen-Haebler, pointed out that today there are almost limitless possibilities in new aromatic chemicals. He guessed that there are probably over 2,000 basic aromatic chemicals available commercially today, maybe ten times the number which were on the market thirty years ago. Many of the products of more recent development are wholly synthetic as compared with those of some years ago which were chiefly isolates of natural products. Through chemical research, the list of new available aromatics will continue to expand as the need for new materials develops.

Like many well-known characters in the business world, there are numerous stories told about Van. His name which for some is slightly complicated was often switched around, sometimes by design, sometimes by accident. Among his friends in the chemical specialty field, he was upon occasion nicknamed "Mr. van American" and by others he was referred to as "Van Ammerdinger."

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Aerial view of the van Ameringen-Haebler facilities for research and production of aromatic chemicals at Union Beach, N. J.



TGA Reelects Harang

Changes in personality of the toilet goods industry discussed at 22nd annual meeting. 1958 convention to be at Poland Spring, Me.

THE "personality" of the toilet goods and cosmetics industry was given close scrutiny during the 22nd annual convention of the Toilet Goods Association. The meeting was held at the Waldorf-Astoria Hotel, New York, May 7-9. The first two days of the meeting were devoted to discussions of association business and such industry problems as packaging, merchandising, promotion, advertising and consumer attitudes. The third and final day of the annual gathering was given over to TGA's Scientific Section for discussions of technological developments.

Although TGA had originally intended to meet next year at the Hotel Americana in Miami, Fla., for its first out-of-town convention in over 30 years, the association announced a change of plans early this month. Because of opposition expressed by many members during the annual convention in New York last month, TGA will meet instead next year at Poland Spring House, Poland, Me., June 25 to 29. The Scientific Section, however, will hold its meeting at the Waldorf-Astoria Hotel, New York, June 5, 1958.

All of the officers of the association were reelected including Pierre Harang, executive vice-president and director of Houbigant Sales Corp., New York, who continues to serve as TGA president for another year. Also reelected were these four vice-presidents: Jean Despres, Coty, Inc., A. E. Johnston, Colgate-Palmolive Co., C. T. Lispcomb, Jr., J. B. Williams Co., and J. I. Poses of D'Orsay Sales Co. Philip C. Smith, Yardley of London, Inc., continues to serve as treasurer and William F. Denney, Jr., of Frances Denney, was renamed as secretary.

Three new directors were elected. Lewis F. Bonham, president of Bourjois, Inc., and Paul Carey, general sales manager, Tussy Cosmetiques, were chosen for three-year terms. N. S. Walbridge, president, Beauty Counselors, Inc., Detroit, was named for a two-year term on the board, and John E. Hardy, vice-president of Daggett & Ramsdell, Inc., was elected for a one-year term.

Directors reelected for three-year terms were: Edward J. Breck, John H. Breck, Inc.; Oscar Kolin, Helena Rubinstein, Inc.; Wrisley B. Oleson, Allen B. Wrisley Co.; Jerome A. Straka, Chesebrough-Ponds, Inc., and Northam Warren, Jr., Northam Warren Corp.

The two directors who represent associate members were reelected. They are Gert Keller, Schimmel & Co., and Dr. Lloyd Hazleton of Hazelton Laboratories, Inc.

Departing from the customary type of report in which the past year's activities are reviewed and the future predicted, Pierre Harand, TGA president, in his address indulged in "taking stock." This involved posing certain questions to the members of the industry. Mr. Harang's first question dealt with the broad subject of the industry's public relations.

"Has our industry developed the respect it needs in order to keep its volume growing at the rate at which it has been? . . . Aren't

Pierre Harang
President



C. T. Lipscomb, Jr.
Vice-President



A. E. Johnston
Vice-President



we as a group concerning ourselves too much with just the volume potentials of our industry?," Mr. Harang asked.

The second query directed by the TGA president to his audience dealt with the sales growth of the industry. Specifically, Mr. Harang wanted to know if the audience felt the industry is "holding its own" in the growing gift business? He raised the question of stimulating resale sales in months of the year other than during the Christmas holidays when approximately 21 per cent of the total industry volume by retailers is done. Industry's advertising was discussed by Mr. Harang, who raised the question of whether part of it was not responsible for increased activity by state and federal regulatory bodies.

He suggested that members of TGA consider these questions carefully and advise association headquarters of their views and especially their suggestions as to how a better team spirit within the industry can bring a higher level or stature for the entire industry.

TGA executive vice-president, S. L. Mayham, stated in his report that now is the "time to holler a little." This "hollering" took two forms: praise of the myriad activities of TGA and condemnation of non-members of TGA. These Mr. Mayham took to task for reaping the benefits of the work of the association without taking part in TGA's activities or supporting its work over the years.

The association's trade mark service Mr. Mayham characterized as "one of the most helpful services TGA performs." He said TGA maintains a complete file of registered and many unregistered trade marks.

Mr. Mayham paid particular tribute to the work of TGA's Scientific Section, its director, H. D. Goulden, and its "hard working, earnest members." The 60 standards for raw materials established by TGA are a "major accomplishment of the Scientific Section," Mr. Mayham said. Some of these he said were more rigid in their requirements than those appearing in the *U. S. Pharmacopoeia.*

"We don't and never will set up standards for finished products," Mr. Mayham declared. "This would lead to grade labeling if adopted, and TGA members can't live under grade labeling," he said.

In touching on legislative activities of concern to members of his industry, Mr. Mayham said there may be tax relief coming up later in this session of Congress. If so, dropping of the excise tax on cosmetics and toiletries may be suggested.

TGA's Scientific Section Meets

J. C. ERVIN of Procter & Gamble Co., Cincinnati, was elected vice-chairman of the Scientific Section of the Toilet Goods Association on May 9, when the section held its meeting following TGA's two-day annual convention. Dr. Emil Klarmann of Lehn & Fink Products Co., New York, last year's vice-chairman, becomes chairman of the section, succeeding Orville Davenport, Avon Products, Inc., whose term as chairman expires.

The scientific program consisting of seven papers opened with a presentation entitled "Interference of Nonionic Emulsifiers with Preservatives, Part V," by Constance S. Hall and M. G. de Navarre, Cosmetic Laboratories, Inc., Div. of Beauty Counselors, Inc., Detroit. Read by Miss Hall, this is the fifth installment of a report on complex formation between preservatives and nonionics, commonly used as emulsifiers in cosmetic products. Practically all nonionics based on the addition of ethylene or propylene oxide to fatty acids, alcohols, esters or polyglycols, interfere with the preservative properties of compounds containing either a phenolic or carboxylic hydroxyl group in the molecule. This interference is apparently due to the formation of complexes by hydrogen bonding. Methyl parahydroxybenzoate and an ethoxylated stearyl alcohol coded as G-3720 were used in the study. The presence of complexes of these two materials in aqueous solutions were determined by paper chromatography.

Strips of filter paper supported the descending chromatogram: controls and complexes were spotted on the paper with a platinum wire. The developing solution contained sodium carbonate, ether, ethyl alcohol, n-butyl alcohol and ammonium hydroxide.

Preparation of the samples involved conversion of the phenol to the phenolate with sodium hydroxide, and the addition of para-nitro-aniline, hydrochloric acid, water and sodium nitrite. An hour later a dilute solution of hydrochloric acid was used to restore the solution's original pH (4-6). After a resolution period, the methyl para-hydroxybenzoate standard was resolved at a specific Rf (retention factor) value with a specific color reaction as compared to the complex. Slides were shown to illustrate the results.

Nonaqueous titrations and the spectrophotometer were used to show that quantitative changes took place in the amounts of preservative originally put into the nonionic solution.

Human reaction to olfactory stimuli does follow a certain pattern, according to Noel Schwartz and Dean Foster of United States Testing Co., Hoboken, N. J., who reported on "The Measurement of Consumer Reaction to Fragrances." A panel of 165 adult women was exposed to four commercial fragrances of definite type: a floral bouquet, a modern type, an oriental, and a forest blend. At the same time the panel was shown photographs of eight distinctly different types of women, the business woman, the exotic type, etc., and also a set of fabric swatches in

different colors. The task of the participants was to match each fragrance first with the appearance characteristics of one of the photographs and secondly with a color impression. The results showed the existence of generalized associations between both sets of visual stimuli and the four perfumes. (In other words no one would expect Dorothy Shaver to smell like Hedi Lamarre, or Ophelia like Lady Macbeth.)

"The Antibacterial Activity of Aluminum Salts," by Irvin H. Blank and Ruth K. Dawes, both of Massachusetts General Hospital, Harvard Medical School; and Marjorie Moreland of Summit Diagnostic Laboratories, was presented by Dr. Blank. The paper reported documentation of the theory that the deodorant effect of aluminum salts results from their antibacterial action. Thin sheets of callus were used in the *vitro* experiments.

A paper entitled "Ethanolamines in Topical Preparations," by J. H. Draize, F. X. Wazeter, E. A. Kelley, and R. E. Zwickey, Division of Pharmacology, Bureau of Biological and Physical Sciences, Food and Drug Administration, Washington, D. C., dealt with comparative toxicity studies of monethanolamine and ammonium thioglycolate. Monoethanolamine thioglycolate was found to be locally and systemically more poisonous than the ammonium compound. However, the animal studies employed doses far in excess of quantities involved in the waving of human hair.

In a presentation entitled "Pitfalls in Evaluating the Safety of Cosmetics," Bernard E. Conley, secretary, Committee on Toxicology, American Medical Association, stressed the relativity of the safety concept. As an example, he quoted sulfapyridine, which does present an inherent toxic risk, but was used in cases where that risk was small compared to the gravity of the disease. Similar risks arise from the use of hydroquinone in sun screen preparations and of thallium



H. D. Goulden.
Scientific Director

in certain cosmetic specialties. But these uses do not justify the risk, and incorporation of these materials in personal products has been discontinued.

In estimating the safety of a product, the difference between toxicity and sensitivity must be constantly kept in mind. As an example, Dr. Conley quoted aspirin, a drug of extremely low toxicity to which approximately one in 500 persons may become sensitive.

One of the many snares in pharmacologic evaluation is the use of animal toxicity data as standard values for humans. Such data are at best only representative of the dangerous or potentially injurious level for adults. Present testing methods for predicting dermal sensitizations are not entirely reliable, Dr. Conley said, and accurate data on the incidence of dermatitis are not available. A complicating and unique factor is the virtual cradle-to-grave skin contact with some cosmetic ingredients.

The speaker stressed the need for more definite use studies and the vital importance of properly conducted use tests to supplement laboratory data in predicting dermal and systemic hazards.

"The Analytical Chemistry of Silicones in Cosmetics," by A. Pozefsky and M. E. Grenoble, General Electric Co., Silicone Products Department, Waterford, N. Y., described analytical methods for the qualitative and quantitative determination of silicones with special emphasis on infrared absorption technics. Procedures were outlined for assaying the purity of silicones, for isolating the silicone from emulsions and solutions, and for analysis of the concentrates. Results obtained by application of these methods to a typical group of commercial products were presented.

Dr. Herbert J. Spoor of New York Medical College concluded the scientific program with a paper on "Practical Measurements of Epidermal Emolliency and Emollient Penetration." Emollients of the skin are oil and water emulsions which prevent dryness and give protection. Dr. Spoor presented a method for the measurement of natural oils present on the skin surface and in the epidermis and for the demonstration of results obtained by the use of toiletry emollients. The method is based on in *vivo* and in *vitro* staining of sebaceous secretions with osmic acid.

At luncheon, Leo Levi of Food and Drug Laboratories, Department of National Health and Welfare, Ottawa, received on his own behalf and that of his associates the annual award given by CIBS (Cosmetic Industry Buyers and Suppliers Association). Dr. Levi was presented with a scroll and a cash prize. The presentation was made by George Kaempkes of Pacquin, Inc., president of CIBS. Full title of the award winning paper is: "The Physicochemical Characterization of Essential Oil Constituents and Their Derivatives by Modern Instrumentation Techniques," by Dr. Levi; James L. Thomson, Food and Drug Laboratories, Department of National Health and Welfare; Dr. James C. Evans and Dr. Harold Bernstein of the Pure Chemistry Division, National Research Council; and S. A. Forman and Norman Miles, Department of Agriculture, all of Ottawa, Canada. The paper was presented at the May 1956 meeting of the Scientific Section.

Plastic Coated Aerosol Talk Highlights

Cosmetic Chemists Meeting

HIGHLIGHTS at the annual spring meeting of the Society of Cosmetic Chemists included a paper entitled "Plastic-Coated Pushbutton Containers," by A. R. Marks and Edmund Budzilek, Wheaton Plastics Co., Mays Landing, N. J., and a presentation by D. L. Andersen, J. W. Opie and A. J. Freeman of General Mills, Inc., Minneapolis, dealing with "A New Family of Amphoteric Surface Active Agents: Fatty Amino Acid Derivatives." The meeting was held May 10 at the Commodore Hotel, New York.

Amphoterics or ampholytics are surfactants containing both anionic (basic) and cationic (acidic) functional groups in the same molecule, Mr. Andersen said. These products are prepared by the reaction of a fatty primary amine and methyl acrylate to give the N-fatty beta-aminopropionic ester, which is saponified to give the water-soluble salts thereof. Mr. Andersen's study was confined to the N - fatty beta - aminopropionic acids, described as typical balanced mono - amino - monocarboxylic ampholytes. The keys to the performance of an amphoteric surfactant are pH and chain length of the fatty portion, which control solubility, viscosity, foaming characteristics, and ionic character of a formulation. Flexibility of chemical structure, versatility, and compatibility with a wide range of surfactants, metal chelation, good bactericidal properties, low toxicity, are among advantages offered by these compounds. Comparatively high cost in relation to detergency suggest the use of amphoterics as additives to endow formulations incorporating lower priced surfactants with special properties such as non-corrosive or controlled foaming characteristics.

Amphoterics are being used in shampoos, cosmetics, corrosion inhibitors, textile chemicals and a number of other specialties.

Plastic Coated Aerosols

MR. MARKS of Wheaton stressed the supreme importance of stringent quality control in the manufacture of plastic coated glass aerosol containers. The range of tolerances is extremely narrow. This does not only apply to the bottle and its polyvinylchloride coating but also to the nozzle opening and all features of the closure. Design of the bottle and thickness of the dip coat are the main problems in the engineering of a correct plastic coated glass pressure package for certain products and applications. One of the main tools of safety evaluation is drop testing and the determination of factors influencing the fragmentation patterns of the packages. In addition to the characteristics of the bottle and coating, the internal pressure of the aerosol is one of the main considerations.

Glass pressure packaging is gaining in the cosmetics and pharmaceutical field because inertness and impermeability are important in both. Furthermore the appearance of the glass bottle, dipped in a transparent or colored coating, is in keeping with the traditions of the cosmetics and perfume industries.

"Fundamental and Comparative Actions of Cleansing Creams," by Albert R. Latven of Pharmacology Research, Inc., Darby, Pa., presented results of work on the ability of cosmetic formulations to remove certain secretory products

(*Turn to Page* 181)

Nobel prize winner Dr. A. J. P. Martin (left) and his coauthor Dr. A. T. James (center) accept the third annual Special Award of the Society of Cosmetic Chemists from Society president Sabbat J. Strianse (right). The distinguished British team shared the $1000 prize for their basic contribution to cosmetic science — gas-liquid partition chromatography. They were honored at a luncheon at the Hotel Commodore in New York, part of the Society's semi-annual scientific meeting last month.





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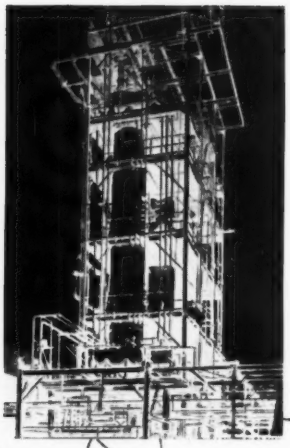
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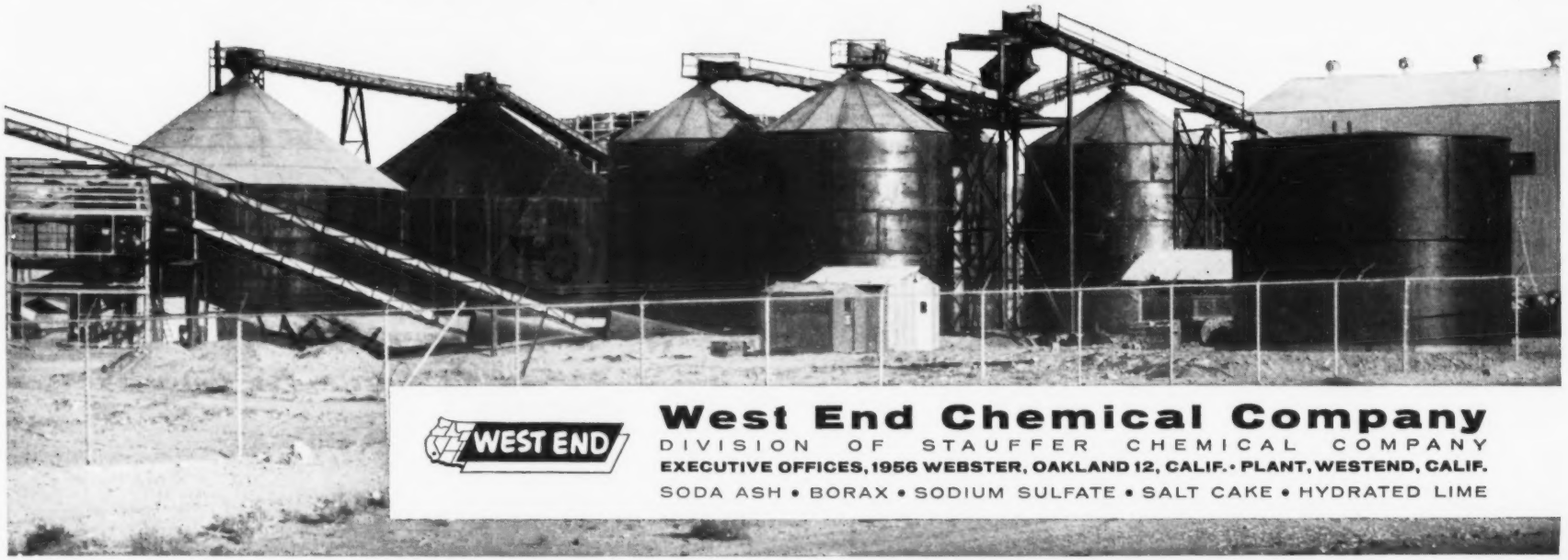
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Donald M. King, president of Masury-Young Co., Boston, and second vice-president of CSMA, presiding at May 22nd group luncheon during the 43rd midyear meeting of Chemical Specialties Manufacturers Assn.

Proceedings . . .

Printed proceedings covering the 43rd annual meeting of the Chemical Specialties Manufacturers Association, held December 3-4, 1956, at Washington, D. C., are now available for general sale to non-members of the Association.

These published proceedings include all reports, papers and discussions at general sessions and divisional meetings. Also lists officers, board of governors, committee members and general association membership.

Proceedings are bound in a paper-covered volume, 236 pages, 8½ x 11. Sent postpaid at $7.50 per copy in the U. S.; $8.00 elsewhere. Checks should accompany orders. Also some copies of proceedings of prior CSMA meetings are available at the same price. Send orders or requests for further information to

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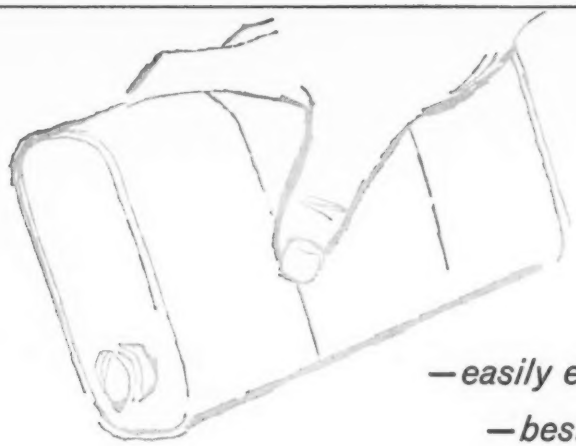
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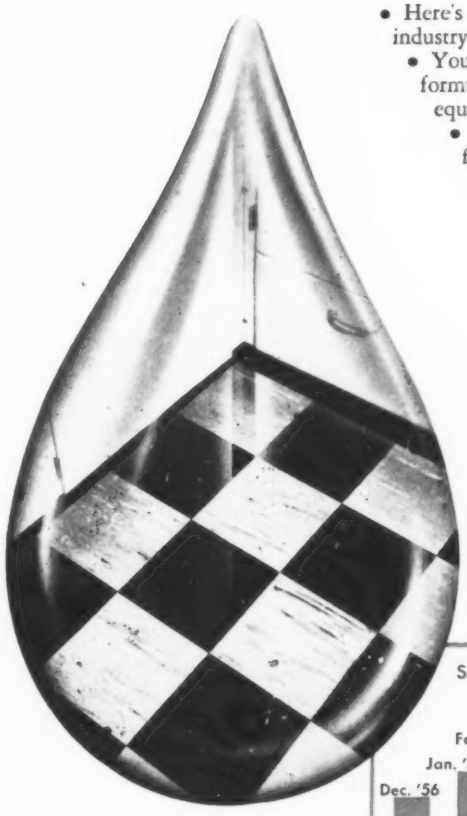
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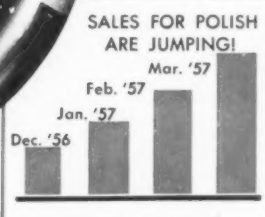
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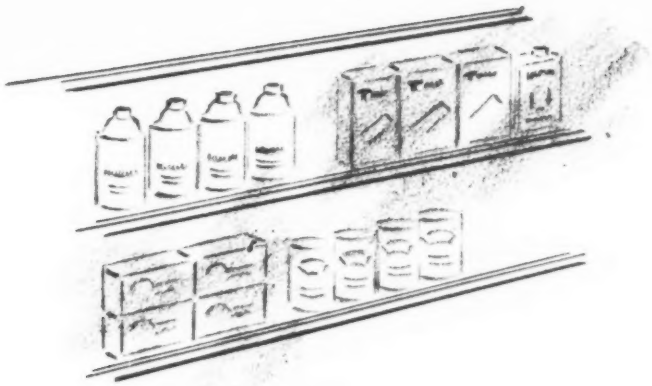
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C.S.M.A. Meets . . .

Rep. Curtis tells of need for hazardous substances laws; aerosol sales hit $320 million; new division officers elected

TRENDS in chemical specialties were charted in annual surveys released during the 43rd midyear meeting of the Chemical Specialties Manufacturers Association, held at the Drake Hotel Chicago, May 20-22. Sales of insecticides and aerosol packages were up, anti-freeze and brake fluid, totals for which are tied in closely with automotive production, dipped slightly in 1956 as car output declined.

Other highlights of the meeting, which was one of the largest in the history of CSMA with a registration figure of 855, or a total attendance of close to 1100, were the commemoration of two anniversaries and election of administrative committees of the six divisions of which CSMA is composed. The Insecticide Division marked the 25th anniversary of the adoption of the Peet-Grady Test for household insect sprays at its meeting the afternoon of May 25. A "then and now" symposium discussion of many facets of pressure packaging called attention to the 10th anniversary of the marketing of low pressure aerosols at a Joint Aerosol and Insecticide Divisions meeting May 22.

Against the background of a legislative year in which almost all state legislatures and both houses of Congress met and considered many laws pertaining to chemical specialties there was considerable interest in the appearance of Thomas B. Curtis, U. S. representative from Missouri, as luncheon speaker, May 21. Congressman Curtis on May 9, introduced a bill, H. R. 7388, to regulate the interstate distribution and sale of packages of hazardous substances intended for household use. It is a companion bill to that introduced on Apr. 16 by Senator Prescott Bush of Connecticut. Representative Curtis declared that existing legislation is inadequate, and called upon the chemical industry to support passage of his bill requiring uniform labeling to protect the consumer against his own misuse of newer chemical products.

A sharp counter attack on "profligate attempts to indicate that chemical specialties manufacturers are careless and penurious in the manufacture of their products" was launched by H. W. Hamilton, CSMA secretary in his report. He decried the "new fad of condemnation through literature and scare articles." In his address as secretary at the general sessions, the morning of May 22, Mr. Hamilton declared that a campaign of "stop, look and listen would cut down on accidental household poisonings." He added that while efficient poison control centers are useful, producers or vendors should not be required to send data to hundreds of cities. There should be one central agency for routing this information to centers throughout the U. S., he indicated. "Uniform, equitable laws that are capable of enforcement can help" in cutting down on accidental deaths by household chemicals.

A nominating committee was elected at the luncheon May 21 to present a slate of officers and directors for election at the 44th annual meeting of CSMA at the Hollywood Beach Hotel, Hollywood,

CSMA's president and first lady, Harry E. and Mrs. Peterson. Mr. Peterson is president of Peterson Filling & Packaging Corp., Danville, Ill.



Fla., next December. The committee is composed of Dr. E. G. Klarmann, Lehn & Fink Products Corp., New York, and a member of the board of Governors; C. L. Weirich, C. B. Dolge Co., Westport, Conn., chairman of the Soaps, Detergents and Sanitary Chemical Products Division, and a member of the board; Melvin Fuld, Fuld Brothers, Inc., Baltimore, a board member; Leonard J. Oppenheimer, West Chemical Products, Inc., Long Island City, N. Y., and N. J. Gothard, Sinclair Refining Co., Harvey, Ill.

Members of the divisional administrative committees elected at the meeting to take office following the annual meeting next December are:

Aerosol Division: Chairman, W. E. Graham, Crown Cork & Seal, Inc., Can Division, Philadelphia; Vice-chairman, W. E. Baulieu, Bridgeport Brass Co., Bridgeport, Conn.; Charles E. Beach, John C. Stalfort & Sons, Baltimore; William T. Egan, Colgate-Palmolive Co., New York; E. J. McKernan, Seaquist Manufacturing Corp., Cary, Ill.

Automotive Division: Chairman, A. James Coulter, Gulf Oil Corp., Pittsburgh; Vice-chairman, C. A. Weslager, Fabrics and Finishes Division, E. I. du Pont de Nemours & Co., Wilmington, Del.; C. E. Allderdice, Jr., Bell Co., Chicago; Harold G. Lederer, R. M. Hollingshead Corp., Camden, N. J.; A. E. Tongue, Olin Mathieson Chemical Corp., New York.

Disinfectants and Sanitizers Division: Chairman, Irving Gaines, Onyx Oil & Chemical Co., Jersey City, N. J.; Vice-chairman, F. R. Geib, Dow Chemical Co., Midland, Mich.; A. Haldane Gee, Foster D. Snell, Inc., New York; Saul Kaye, Ben Venue Laboratories, Inc., Bedford, O.; Mrs. E. S. Wright, Lehn & Fink Products Corp., Bloomfield, N. J.

Insecticide Division: Chairman, John A. Rodda, Fairfield Chemical Division, Food Machinery & Chemical Corp., New York; Vice-chairman, Alfred Weed, John Powell & Co., Division of Olin Mathieson Chemical Corp., Baltimore; Mark L. Hill, Gulf Oil Corp., Philadelphia; Carlos Kampmeier, Rohm & Haas Co., Philadelphia; John R. Stoddard, Prentiss Drug & Chemical Co., New York.

Soaps, Detergents and Sanitary Chemical Products Division: Chairman, Clarence L. Weirich, C. B. Dolge Co., Westport, Conn.; Vice-chairman, W. S. Jessop, U. S. Sanitary Specialties Corp., Chicago; Lester D. Berger, Jr., Carbide and Carbon Chemicals Co., New York; R. B. Mitchell, B. T. Babbitt, Inc., Albany, N. Y.; Louis E. Wells, Milner Products Co., Jackson, Miss.

Waxes and Floor Finishes Division: Chairman, C. S. Kimball, Foster D. Snell, Inc., New York; Vice-chairman, Earl Brenn, Huntington Laboratories, Huntington, Ind., A. C. Bowers, Pioneer Manufacturing Co., Cleveland; Gerard R. DeNapoli, Masury-Young Co., Boston; Donald B. Peck, Fuller Brush Co., Hartford, Conn.

Groups breaking away from CSMA to form separate organizations would be making a grave mistake, Harry E. Peterson, president of the association declared. In his address as CSMA president, Mr. Peterson, who is head of Peterson Filling & Packaging Co., Danville, Ill., said that it wasn't until he was elected to his present position that he "fully comprehended the myriad activities in which CSMA is involved."

"The range and type of products within the scope of the CSMA is already large and is rapidly expanding. Some individuals feel that the expansion has been too rapid and have suggested 'spin-offs'. If a graver mistake could possibly be made at this (point) . . . it is hard to conceive." The work of the scientific committees of the six different divisions have accomplished things in the past few years that other associations might consider impossible, Mr. Peterson stated. In addition, he pointed out, because the activities of the divisions often overlap, members of the groups involved benefit from the experiences of the others.

"Consequently, if any proposed 'spin-offs' occurred, it would be imperative for firms to be members of several groups. After all, a large number of your customers and suppliers are members of CSMA and will remain. From comments I have heard, very few individuals are looking (forward) . . . to attending any more meetings than are absolutely necessary."

Mr. Peterson also pointed out that CSMA is unique in that it is not controlled by a few large firms. In fact, he said, "it is the smaller and medium size firms that have been the backbone since its inception in 1914."

The CSMA surveys were cited by Mr. Peterson as being unique in their completeness. In addition to those covering brake fluids, anti-freeze, insecticides, floor waxes and aerosols, new surveys of automobile waxes and polishes and radiator chemicals are contemplated.

"Experience has shown that these statistical surveys are invaluable to the industries served," Mr. Peterson said. Benefits derived from such surveys, according to the CSMA president, are: 1. ". . . valuable publicity for the products"; 2. making it possible for "individual companies . . . to evaluate better their own sales positions and potentials"; 3. to trace market trends over a period of years and to note which products sell well and which do not; 4. "trends in container sizes are indicated."

Mr. Peterson also revealed that a suggestion that CSMA meet once a year, instead of holding two

Captions, facing page, left to right, top to bottom: top row: Lester D. Berger, Jr., Union Carbide Chemicals Co.; Jay C. Harris, Monsanto Chemical Co.; Willis J. Beach, Sugar Beet Products Co.; W. S. Jessop, U. S. Sanitary Specialties Corp.; Alfred Weed, John Powell & Co., division of Olin Mathieson Chemical Corp.

Second Row: Jack M. Hoerner, Armour and Co.; Perry G. Bartlett and L. J. Oppenheimer, West Chemical Products, Inc.; Frederick G. Lodes, Lodes Aerosol Consultants, Inc.; Dr. Francis A. Mina, Lodes Aerosol Consultants, Inc.; S. N. Seely and W. A. Bours, III, E. I. du Pont de Nemours & Co.; Sylvan Lefcoe, Par Industries, Inc.

Third Row: Norman E. Wilson, Puro Co.; Abraham L. Weiner, Standard Naphthalene Products, Inc.; Walter Mannheimer, The Miranol Co.; Irving Gaines, Onyx Oil & Chemical Co.; E. M. Swisher, Rohm & Haas Co.; Dr. L. S. Stuart, U. S. Department of Agriculture; H. J. Cordle, Chilean Nitrate Sales Corp.

Fourth Row: Arthur R. Smith and A. Wolpert, Treplow Products, Inc.; Adrien du Bois, West Chemical Products, Inc.; Frederick G. Taylor, Lehn & Fink Products Corp.; E. J. McKernan, Seaquist Manufacturing Corp.; Stuart D. Watson, McCann-Erickson Adv. Agency; Miss Virginia Gale, WGN; A. E. Budner, S. C. Johnson & Son, Inc.; Joseph Tomlinson, General Chemical Division, Allied Chemical & Dye Corp.

Fifth Row: Reuben Landau and George Isenman, Beacon Co.; Donald Peck, Fuller Brush Co.; Graham Barker, Emulsol Chemical Corp.; Lawrence Quigley, Dawe's Laboratories; Russell G. Puhle, Tykor Products, division of The Borden Co.; Richard M. Young, Jr., Ultra Chemical Works, Inc.

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Harry
Jean

















meetings as at present, had been referred to the association's Policy Advisory Committee and rejected. The formation of liaison committees in the Aerosol Division was proposed by Charles E. Beach of John C. Stalfort & Sons., Baltimore, chairman of the division's administrative committee. In making his report as chairman of the division, on May 21, Mr. Beach called for the establishment of a liaison committee to contact and offer to assist colleges and universities in setting up special courses in aerosol technology. The committee would pass along information pertaining to pressure packaging to such institutions. Mr. Beach asked for volunteers to serve on the committee.

A second similar committee to work with trade associations and scientific groups interested in packaging food products as aerosols was also suggested by Mr. Beach.

The first of the two sessions of the Aerosol Division featured papers or presentations dealing with propellants, aluminum containers, problems in producing non-aerated aerosols, the division's publicity program and the annual aerosol product survey.

Lyle D. Goodhue of Phillips Petroleum Co., Bartlesville, Okla., opened the session with a paper on "Hydrocarbon Propellants for Aerosols," which he wrote jointly with H. Franz of Phillips. The paper appeared in full in the May issue of *Soap & Chemical Specialties*, and reprints are available on request.

Europe, which last year produced about 25,000,000 aerosol containers, of which 8,000,000 were aluminum, is on the verge of a big increase in production of aluminum cans for aerosols and other products. This prediction was made by Aksel Taranger, head of canning and packaging development for Aluminum Union, Ltd., Montreal, and second speaker of the first aerosol session. Europe's major contribution to aerosols, he said, has been the aluminum container, particularly the single piece or "monobloc" type developed by the Italians. In addition, Mr. Taranger said, two piece aluminum containers are widely used in Europe for aerosol products. Although the Interstate Commerce Commission regulations limit aluminum and tinplate aerosol containers to packaging at a pressure of 40 pounds per square inch in the U.S., European experience has shown that 90 pounds pressure can safely be permitted for aluminum containers, he said. Mr. Taranger also showed color slides of typical aerosol containers fabricated in aluminum.

The use of diaphragms or pouches of various designs, whereby

Captions, facing page, left to right, top to bottom: top row: Mr. and Mrs. I. Y. Straus, Dura Commodities Corp.; Henry J. Brownstein, Hysan Products Co.; A. G. Peck, Peck's Products Co.; Joel Brownstein, Hysan. George Hartz, Olin Mathieson Chemical Corp.; Edward P. Hassler, and N. J. Stromstad, Sterwin Chemicals, Inc. Second Row: Wiley J. Pickett, Pennsalt Chemicals, Inc. Robert W. Svendsen, Chase Products Co.; Dr. Wolfgang Sapper and Bruno W. Young, Wax & Rosin Products. Michael Lemmermeyer, Aromatic Products, Inc.; Aldo S. Pero, Fluid Chemical Co.
Third Row: Philip H. Sagarin, VCA, Inc.; Lyle C. Stymiest, Rexall Drug Co.; E. R. Lassner, Connecticut Chemical Research Corp.; L. E. Carr, and C. E. Allderdice, Jr., Bell Co.
Fourth Row: Charles E. Beach, John C. Stalfort & Sons, Inc.; Kurt J. Wasserman, Aerogon Chemical Industries, Inc.; Ralph Hamilton, Baird & McGuire, Inc.; Louis C. Fernandez, Monsanto Chemical Co.; Fred H. Buck, Jr., Ultra Chemical Works, Inc.
Fifth Row: Joseph Sinsheimer, Fuld Brothers, Inc.; Leon Kresser, Authority Chemicals Division, Bardahl Oil Co.; George W. Fiero, and Franklin C. Nelson, Esso Standard Oil Co.

Tenth anniversary of low pressure aerosols panel featured during May 22 session of CSMA aerosol division. Top, l. to r.: R. A. Fulton, U. S. Department of Agriculture; Stuart Watson, McCann-Erickson; Miss Virginia Gale, WGN; John N. Heinen, Jr., Continental Can Co.; Dr. Winston H. Reed, Reed Research Corp., Shelton, Conn., and J. H. Fredette, American Can Co. Bottom row: Dr. Reed; Mr. Fredette; Jack Campbell, Continental Filling Co.; John Rodda, Fairfield Chemicals Division, FMC, moderator; E. J. McKernan, Seaquist Manufacturing Co., moderator, and H. W. Hamilton (speaking) CSMA secretary.
























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and GUEST



compressed gas may exert pressure necessary for dispensing without contacting the product, is one solution suggested for preventing intermixing of propellant and product in non-aerated aerosols. The solution outlined was contained in the paper, "Problems in Producing Non-Aerated Aerosols" by G. A. Klitsch and W. E. Graham of Crown Cork & Seal Co., Can Division, Philadelphia. "Non-aerated aerosols" were described by Mr. Graham as certain types of food and non-food products in which mixing of propellant and product is undesirable. With most aerosols, aeration to facilitate spraying is necessary. With such products as toothpaste, however, this is not recommended. The use of polyester films in aerosol containers to form pouches or diaphragms present mechanical problems which the paper discussed.

Another solution lies in the direction of the use of inert gases such as nitrogen and argon. These gases offer promise in producing non-aerated aerosols of the simple flow type as well as wet streams.

Some ideas which the publicity program of the CSMA Aerosol Division might include were outlined in a presentation by Norman Odell of G. M. Basford Co., New York public relations and advertising firm which is handling the program. He suggested films on aerosols, the establishment of a complete aerosol picture file, press conferences for editorial people on women's consumer magazines and women's pages of daily newspapers, etc.

Aerosol Production

THE long-awaited 1956 aerosol production figures showed an estimated total U.S. and Canadian output of 320,000,000 units and a retail value of about the same figure. The 1955 CSMA aerosol figure was 240,000,000, which means the '56 totals were up 33 per cent. Biggest shift in the product standings in terms of units was in hair lacquers, of which 80 million units were estimated to have been filled in 1956, up 50 percent over 1955. Also, for the first time, a product other than insecticides takes top spot in product standings.

Percentagewise, the category "other household products" showed the biggest gain. This category, which includes glass, metal, rug and upholstery, and oven cleaners, as well as waxes, insect repellents, water repellents and shoe dressings, quadrupled its volume last year, as compared with 1955. Output of other household products last year was put at 23,082,683, up from 6,204,103 units in 1955. The 1956 gain jumps other household products in the standings from ninth largest in 1955 to fifth in 1956.

The spectacular rise of hair lacquers during 1956 when the estimated total hit close to 80 million units (79,640,927 to be exact) recorded a gain from 53,790,285 cans of hair lacquer filled in 1955. As a result, hair lacquers are now in first place in the standings.

Slipping back to second place are insecticides, estimated total output of which was 52,246,330 in 1956, down from 55,975,482 in the previous year. So the combination of a "poor year for bugs" and a surge in the part of hair lacquers production took away the lead from insecticides in the overall standings for the first time. Incidentally, a new classification has been added to the "insect sprays" category: "residual insecticides; household and garden." There is also a "residual insecticides" classification for such products as roach and ant sprays. Two other classes of insecticides in the general grouping of sprays include spray insecticides and moth proofers. Totals for the four product groups in 1956 were listed as follows: Spray insecticides, 34,948,787 units, down from the '55 total of 38,927,301; Residual insecticides (roach and ant sprays), 8,909,258, a gain from the 1955 figures of 8,304,840; Residual insecticides (household-garden), 1,677,344; Mothproofters, 6,710,941, a decline from 8,743,351 a year earlier.

Shaving lather remained in third place in 1956 with an estimated total of 42,068,498, which represents a drop from the 45,387,375 units reported in '55.

Their rate of growth tapering off sharply in 1956, room deodorants occupied fourth spot in the product standings with a total of 35,311,647. While this figure represents a gain from the 32,110,180 of 1955, the latter figure was almost double the 1954 total of 17,203,054.

Pigmented and metallic paints moving up from eighth to sixth spot, just behind "other household products," more than doubled their 1955 total last year. In 1956, 19,584,468 units were reported filled, as against 7,723,368 in 1955.

Seventh in product totals were miscellaneous products (pet sprays, mildew preventives, ignition and anti-static sprays, stencil ink, belt dressings, industrial applications, lubricants and others). This category showed a gain from 9,601,767 in '55 to 10,354,346 last year.

Ninth largest class of products packaged in aerosol form in 1956 were colognes and perfumes (a new grouping), with an estimated total of 8,768,927 units. In

(*Turn to Page* 79)

Captions, facing page, left to right, top to bottom: top row: Winston H. Reed, Reed Research Corp.; W. H. Walker, Continental Filling Corp.; Lee D. Callans, General Chemical Division, Allied Chemical & Dye Corp. John E. Doordan and Frank Calkins, Tennessee Corp.; Syed A. Hussain, Reily Chemical Co.

Second Row: Carl Pacifico, American Alcolac Corp.; Dr. W. M. Linfield and E. W. Colt, Armour and Co.; James A. Green, Standard Oil Co. (Indiana). Ralph A. Codington, J. I. Holcomb, Jack Bell and Graham Barker, Emulsol Chemical Corp.; Kurt J. Wasserman, Aerogon Chemical Industries, Inc.

Third Row: Carl B. Lien, Lien Chemical Co.; Albert E. Miller, Orbis Products Corp.; Jack Varley, James Varley & Sons, Inc. James W. Bampton, Krylon, Inc.; D. S. Tillotson, Pennsalt Chemicals Corp.; Edward J. Thornton, Merck & Co.

Fourth Row: Russell H. Young, Davies-Young Soap Co.; Alfred C. Stepan Jr., Stepan Chemical Co.; Earl Brenn, Huntington Laboratories, Inc.; Stanley Maas and A. Dingfelder, Felton Chemical Co.; Charles R. Lichtenberg, Chicago Sanitary Products Co.

Fifth Row: Louis M. Arqueso, Jr. and C. S. Treacy, M. Arqueso & Co.; Anton E. Budner, S. C. Johnson & Son, Inc. Franklin C. Nelson, Esso Standard Oil Co.; E. J. McKernan, Seaquist Manufacturing Corp.






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WAX FACTS

NEWS OF INTEREST TO WAX USERS—
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Special Issue - S 57-6

Choose the Right Wax!

By I. Y. STRAUS

When setting out to develop a new product, the discriminating wax formulator will first decide on the wax or combination of waxes which promise to give him the best chance of success. The variety of products on the market is great, but through an intelligent process of screening, the selection can be narrowed down rather quickly. The desired physical properties such as color, hardness, buffability and gloss are readily ascertained by surface examination of the available samples. For floor products, the lightest possible color, hardness and high melting point are essential.

Next comes a screening of solubility and compatibility properties. If you formulate a paste wax, you will look for a product that sets up as a firm, uniform gel in hydrocarbon solvents even at low solids content. If you formulate a liquid solvent type wax, you will look for properties assuring even, fine particle size dispersion in a hydrocarbon solvent with a minimum of settling out. The final product should remain liquid even at low temperatures.

For emulsion applications, chemical properties must be screened. In many cases, acid values give no direct indication of emulsifiability. You will select those waxes requiring a minimum of emulsifiers for the achievement of the desired particle size. Remember, emulsifiers always soften the film.

You have now narrowed down the choice considerably. Before, however, devoting time and energy to product development, check your source of supply. Is it a reputable firm, solidly founded? Does it fully control its own source of raw materials? How about price stability and availability of supplies? A little checking in that direction will pay big dividends later. You and your management are setting out to invest heavily in time and money. The new product will take its share of your advertising and promotional budget. You must be sure, therefore, that the materials which you put into your product will safeguard batch-to-batch uniformity. Only thus can you protect your sales and your profits.

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(*From Page 74*)
previous years this class was included in the "other personal products" category. Interestingly, 7,024,163 units were packaged in glass containers.

Aerosol and Pressurized Products Survey — 1956 and 1955 (Non-Food Products Only)

Number of units by the sizes indicated for each of the products listed, packed by 83 U.S. and Canadian companies in 1956, including government contracts, (67 companies in 1955).

Product Type	Number of Units Packed (Including Government Contracts)					
	Glass Containers (All Sizes)	Metal Containers				
		High Pressure	16 Ounce But Over 12	12 Ounce But Over 6	6 Ounce And Less	Total
Spray Insecticides (all types)						
1956	.....	.....	.....	.....	.....	52,246,330
1955	.....	.....	.....	.....	.....	55,975,482
Space Insecticides						
1956	.....	.....	1,920,670	29,403,861	3,624,256	34,948,787
1955	.....	990,231	(a)	33,793,439 (a)	4,143,631	38,927,301
Residual Insecticides (Roach & ant sprays, etc.)						
1956	.....	.....	828,504	7,787,224	293,530	8,909,258
1955	.....	12,400	(a)	7,740,078 (a)	552,352	8,304,830
Residual Insecticides (Household — Garden)						
1956	.....	.....	375,836	1,156,178	145,330	1,677,344
(Included with Residual Sprays (Roach & Ant) for previous years.)						
Mothproofers						
1956	.....	.....	1,511,188	5,049,578	150,175	6,710,941
1955	500,000	549,708	(a)	7,522,868 (a)	170,775	8,743,351
Pigmented and Metallic Paints						
1956	.....	.....	6,621,482	11,839,944	1,123,042	19,584,468
1955	.....	.....	(a)	7,203,339 (a)	520,029	7,723,368
Clear Plastic Sprays						
1956	.....	.....	1,422,217	1,378,332	172,401	2,972,950
1955	.....	.....	(a)	1,419,902 (a)	104,240	1,524,142
Room Deodorants						
1956	(m)	.....	236,414	11,015,034	24,060,199	35,311,647
1955	.....	7,500	(a)	12,402,293 (a)	19,700,387	32,110,180
Fire Extinguishers						
1956	.....	.....	1,855,571	989,499	(m)	2,845,070
1955	.....	.....	(a)	1,930,635 (a)	41,004	1,971,639
Artificial Snow (All types)						
1956	.....	.....	1,768,519	4,143,709	498,003	6,410,231
1955	.....	.....	(a)	5,869,673 (a)	949,044	6,818,717
Other Household Products (All type cleaners such as glass, metal, rug & upholstery, oven; waxes, insect repellents, water repellants, shoe dressings, etc.						
1956	1,491,904	.....	8,599,417	4,515,238	8,476,124	23,082,683
1955	500,000	.....	(a)	2,826,503 (a)	2,877,600	6,204,103
Shaving Lather						
1956	.....	.....	(m)	10,735,586	31,332,912	42,068,498
1955	.....	.....	(a)	9,098,163 (a)	36,289,212	45,387,375
Hair Lacquers						
1956	5,097,320	.....	5,639,895	21,816,463	47,087,249	79,640,927
1955	189,253	.....	(a)	21,426,897 (a)	32,174,635	53,790,285
Medicinals & Pharmaceuticals (Fungicides, burn treatments, topical antiseptics, anesthetics, antibiotics inhalants, etc.)						
1956	723,195	.....	(m)	318,516	1,233,464	2,275,175
1955	357,705	.....	(a)	256,500 (a)	840,974	1,455,179
Colognes & Perfumes						
1956	7,024,163	.....	.....	250,000	1,494,764	8,768,927
(Included with Other Personal Products for previous years.)						
Other Personal Products (Shampoos, deodorants, sun tan oils, hand lotions, powders, depilatories, etc.)						
1956	756,412	.....	.....	1,844,271	5,028,518	7,629,201
1955	8,854,831	.....	(a)	1,435,589 (a)	3,930,363	14,220,783
Miscellaneous Products (Pet sprays, mildew preventives, ignition sprays, anti-static sprays, stencil ink, belt dressings, industrial applications, lubricants and any others)						
1956	(m)	.....	1,997,236	6,014,805	2,342,305	10,354,346
1955	9,771	107,916	(a)	6,793,827 (a)	2,690,253	9,601,767
TOTALS ALL PRODUCTS						
1956	15,092,994	.....	32,776,949	118,258,238	127,062,272	293,190,453
1955	10,411,560	1,667,755	(a)	119,719,706 (a)	104,984,499	236,783,520
Projected totals (to include estimated production by companies not reporting)						
1956	.....	.....	.....	.....	.....	320,000,000
1955	.....	.....	.....	.....	.....	240,000,000

(a) 1955, all product types; containers over 12 ounces were not broken out but are included under column headed "12-oz, But Over 6". Number of containers over 12 ounces was negligible through 1955. (m) Too revealing to be released.

MARKET MAGIC

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Left to right, top to bottom:—
Top row: John A. Rodda, Fairfield Chemical Division, Food Machinery and Chemical Corp., Nelson J. Gothard, Sinclair Refining Co., S. N. Seely, E. I. du Pont de Nemours & Co., C. Peter Clapp, Western Filling Corp.

Second row: Clarence F. Carter, Continental Filling Corp., Ralph Thomas, Bristol-Myers Co., Y. C. Fernandez, Odorite Industries, Inc., John A. Quinn, Theobold Industries, Inc., Arthur R. Smith, Treplow Products, Inc.

Third row: Paul Torpin, McLaughlin Gormley King Co., A. W. Bevernick, Prentiss Drug & Chemical Co., Bayard S. Johnson, Franklin Research Co., John S. Lyall, Petrolite Corp.

Fourth row: F. A. Lucard and A. F. Bixby, Pennsalt Chemicals Corp., Mark Hill, Gulf Oil Corp., Thomas H. Harris, U. S. Department of Agriculture.

Fifth row: Frank R. Zumbro, E. I. du Pont de Nemours & Co., James E. Ferris, Hooker Electrochemical Co., Gordon Baird, Baird & McGuire, Inc., Glenn E. Doerr, Federal Varnish Division of Enterprise Paint Mfg. Co.

Sixth row: Montford Johnson, Peterson Filling & Packaging Corp., Andrew C. E. Peasco, Risdon Mfg. Co., Herbert Mellan, Durez Plastics & Chemicals, Inc., Melvin Fuld, Fuld Brothers, Inc.



By substracting the colognes and perfumes totals in 1956 from those of "other personal products," the latter group suffered about a 50 per cent reduction in its output as compared with '55. Last year 7,629,201 "other personal products" units were loaded, against 14,220,783 in the previous year. "Other personal products" includes "shampoos, deodorants, sun tan oils, hand lotions, powders, depilatories, etc.

Artificial snow lost ground in 1956 with an estimated total of 6,410,231 units produced, as compared with 6,818,717 in the preceding year.

A gain of nearly 50 per cent was recorded by clear plastic sprays last year as their total number of units packed rose from 1,524,142 in '55 to 2,972,950 in '56.

Similarly, fire extinguisher output rose to 2,845,070 units last year from a total of 1,971,639 a year earlier.

The rate of growth of medicinals and pharmaceuticals quickened last year, as compared with the three previous years, the 1956 production estimate being 2,275,-

(Turn to Page 101)

What makes G. Barr grow?

Aerosols through Chemistry

"AEROSOLS through Chemistry" is the motto on which G. Barr and Co., Chicago, has grown to be one of the nation's leading producers of non-food aerosols. George Barr, 44 year old president and founder of the firm, steered his chemical specialties operation into pressure packaging nine years ago.

"At that time," Mr. Barr says, "there seemed to be two paths aerosols might take — 'spraying themselves out' if over-eager manufacturers adopted the technique as a mere sales gimmick, *or* developing products that would themselves be improved by pressure packaging."

As a businessman, Barr saw the virtually unlimited opportunity for aerosols, and as a chemical engineer he recognized the developmental work that had to be done to bring the promising aerosol infant to its maturity.

The right personnel — with chemical skill for designing new products and engineering know-how to turn out those products efficiently—has been the company's best assurance of technical competence.

At the head of Barr's sales force is company vice-president Douglas Atlas, 37, who came to the firm with a degree in chemistry from the University of Chicago and substantial experience in the chemical specialties field. Effectiveness in handling aerosol contracts, Mr. Atlas says, depends in no small part upon chemical knowledge.

Morris J. Root, 39, technical director, a University of Minnesota trained chemical engineer, heads a team of 12 chemists. Their work is comprised of product formulation, laboratory quality control, and contingent research in aerosol technology.

Chemical and engineering skills, plus aerosol experience, characterize the backgrounds of men managing Barr plants in Chicago, New York and Los Angeles.

The top echelon of management comprises nine men whose average age is a little over 42. These are men whose careers have developed simultaneously with the growth in aerosol sales. The youthfulness of management indicates that a reservoir of specialized knowledge will be on tap for a couple of decades, at least, and that new people coming into the plant will have the benefit of being trained by these still young "veterans."

Decentralization

BARR'S Company is the first aerosol manufacturer to have plants located on both coasts and in the Midwest. The three-plant operation has realized its purpose of effecting savings in shipping costs and delivery time. The soundness of filling aerosols right in the major market areas has led Barr to contemplate a fourth plant in the Gulf Coast area, coinciding with the blossoming new southern markets. The three plants, each with a quality control laboratory, are closely coordinated through the headquarters office in Chicago.

The company has always specialized in the manufacture and

George Barr,
President

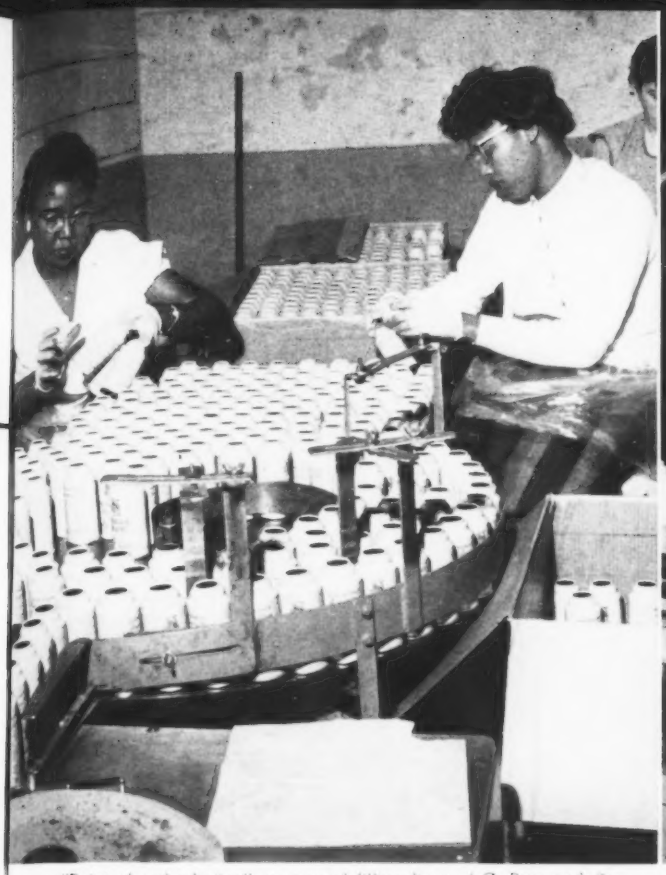


Douglas Atlas,
Vice-president sales

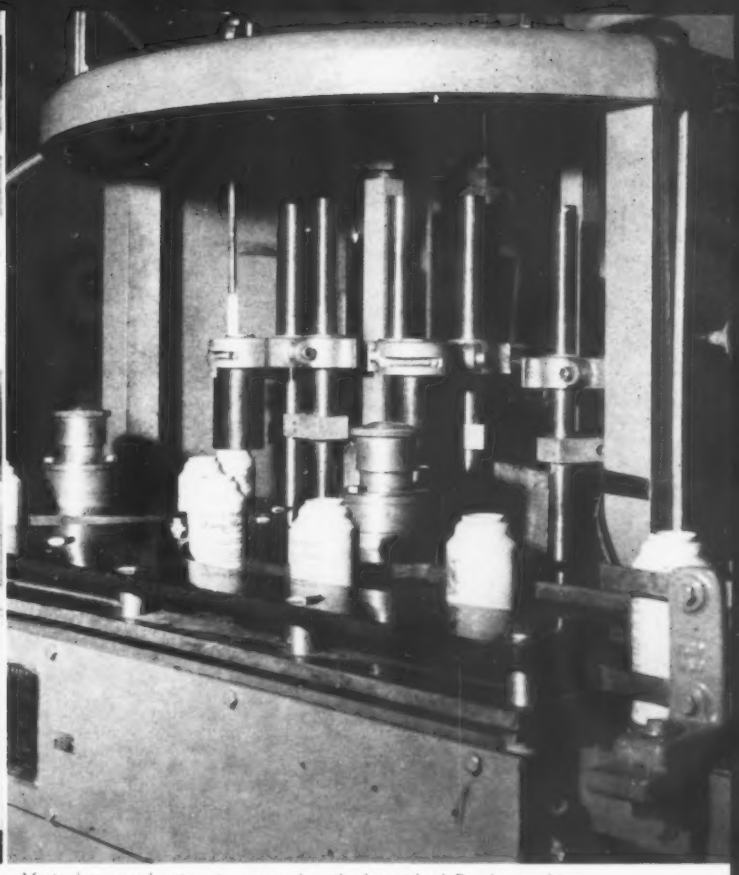


Morris Root,
Technical director





"Point of embarkation" on aerosol filling lines of G. Barr and Co. Here workers unpack empty containers from cartons in background. Cans are inspected for flaws or damage and then are automatically thrust on to a conveyor belt that carries them to device that imprints numbers for statistical quality control.



Meticulous packaging is assured with the aid of Barr's machine for vacuum cleaning aerosol containers. Conveyor belt brings cans through the rotary cleaning machine, from which they travel, foreground, to point of filling.

packaging of private label products for the cosmetic and drug industries. Present production of the three plants is concentrated on the output of such aerosol items as hair lacquer, anti-perspirants, shaving cream, cologne, spray bandages, burn ointment and other pharmaceuticals, room deodorants and insecticide.

Within the last two years the filling of glass bottles has come to occupy an important segment of Barr's production. Aerosol products were traditionally packaged in metal containers, but glass bottles offer special advantages. The shapely delicate bottles are an aesthetic improvement for "dressing table" preparations. Furthermore, glass bottles eliminate corrosion problems that tend to plague certain products packaged in metal containers.

At G. Barr and Company, glass bottle filling is done exclusively by the cold filling method. Barr has found that cold filling is more efficient for glass than pressure filling, because the former method permits reduction of the amount of trapped air to a negligible amount, enabling better control of the pressure. A more uniform and finer spray, desirable in toiletries, is the result of cold filling. In addition to these technical advantages the choice of the cold filling method is a matter of economy in operation: Barr's refrigeration system sufficed to handle the glass bottle operation since it was first introduced.

Barr was the first aerosol producer to cold fill hair lacquer in glass bottles early in 1956, and the product was the first mass market aerosol item packaged in glass. Glass bottles are loaded on three filling lines in the Chicago plant and on additional facilities in the New York and Los Angeles plants.

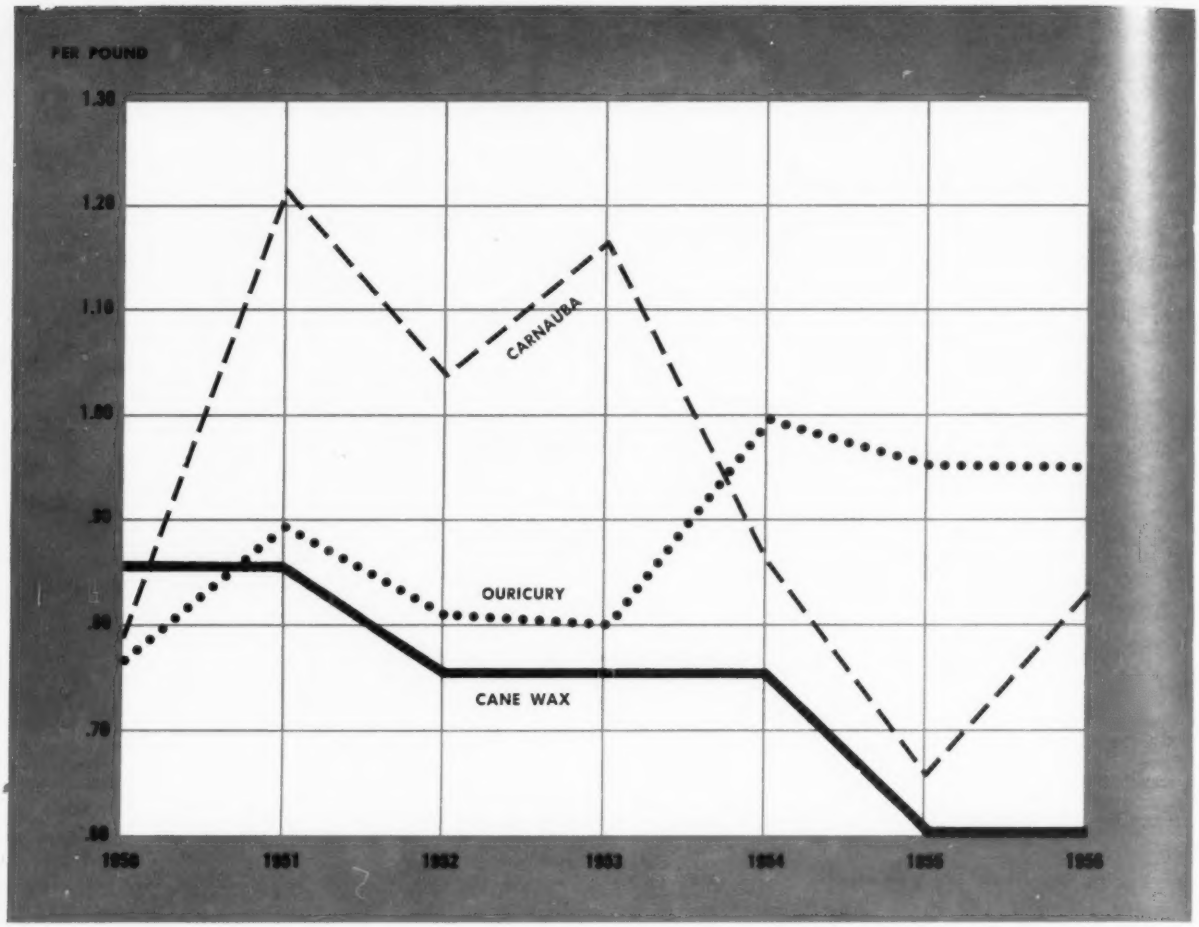
Even before the Barr organization went into aerosols, it was doing a $5,000,000 annual business in chemical specialties. George Barr started the business in 1936, shortly after completing graduate work in chemical engineering at the University of Wisconsin. He started out, single-handed, selling a hair lotion which he had formulated. Today, combined production capacity is well over 1,500,000 aerosol units weekly.

Barr's rapid growth is a result not only of technological progress, but of hard work and of dedication to the sound principle of technological responsibility – that scientific knowledge must be used constructively and progressively.

Research Activities

THE technical work done by Barr scientists has always exceeded the actual needs of production at any one time. Work on basic improvements for current and yet to be formulated aerosol products has produced the following recent advances:

1.) A technique for speeding up detection of corrosion in aerosols packaged in metal containers. By detection of trace amounts of tin, the method increases product



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A section of the Chicago research laboratory at G. Barr and Co. At right is a "miniature" aerosol filling line for laboratory proportioned filling by both pressure and cold methods. In left background is equipment for refrigerated shelf testing. Here, and in adjacent laboratory rooms, Barr chemists work out formulations for aerosol products, perform multiple tasks in systematized product quality control, and work on research basic to aerosol production.

efficiency and significantly shortens the interval between product formulation and its appearance on the market.

2. The spray pattern technique. Utilizing oil and water soluble dyes and high speed photography, the technique makes possible the "tailoring" of spray characteristics to the function of the product. This is a key tool in product formulation.

3. Adaptation of gas chromatography for the analysis of volatile components in aerosol products. Use of the electronic chromatograph enables a new high degree of precision in quality control. The method is rapid as well as efficient.

These research activities illustrate Barr's approach to "aerosols through chemistry." Similar adherence to stringent standards is manifested in the company's system of statistical quality control. This system aims at elimination of error in production by a complex arrangement to check accuracy in some 60 different phases during a single filling run. Before filling, every container is stamped with a number to facilitate selection for statistical sampling.

Quality control is consistent with the trend to stricter specifications for aerosol products, which in turn is a sure sign that pressure packaging is growing up. Barr believes that customers will come to demand such service.

Barr has pioneered in the field of pressure packaged pharmaceuticals and basic work on such formulations has been done by the firm's research and production men in preparation for the "inevitable" entrance of large drug manufacturers into the aerosol field.

George Barr acts on the premise that the company can supply better service by keeping ahead of rather than abreast with developments in the field.

—★—

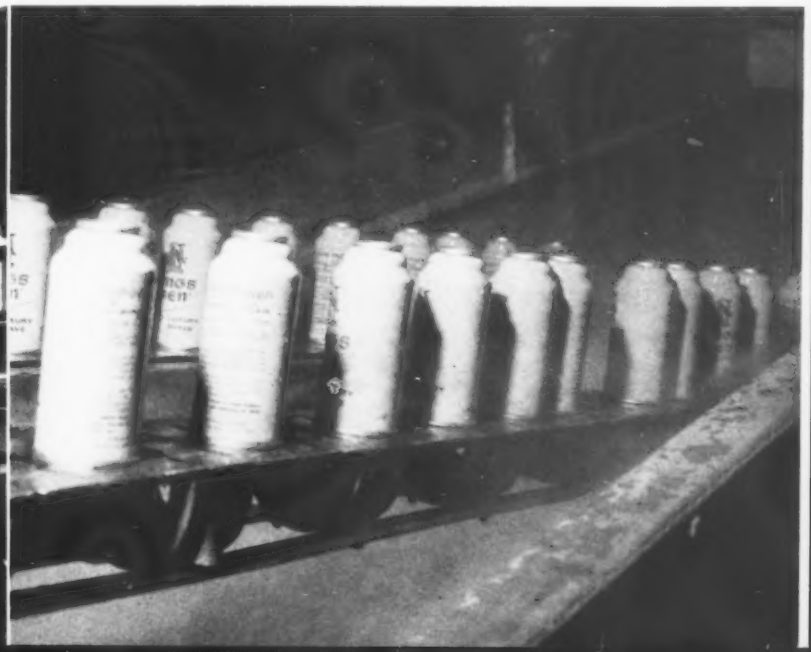
Wiener in Europe

Abe Wiener of Standard Naphthalene Products Co. and Standard Chlorine Chemical Co., South Kearny, N. J., left for a trip to Europe on the *Queen Elizabeth* June 12. He expects to return on the same ship on July 9.

Aerosol containers of hair lacquer, traveling uphill from warm water tank, are blown dry by jets of air. The thorough, rapid drying process propels moisture into the air, effecting a dramatic "storm" scene on Barr's production lines. The moisture is drawn off into a ventilating hood. Every metal container at Barr is "bathed and dried" this way.

Filled and closed, containers of aerosol shaving cream are subjected to a warm water "bath" during which they are rigidly inspected for packaging flaws. Inspectors at Barr watch containers moving slowly through the tank. Any container that bubbles under water (a "leaker") is discarded. Magnetized conveyor belt holds containers steady for up and down hill trip through water bath.





NEW AMP FLOOR WAX EMULSIONS



Develop Water Resistance Fast!

Cost Less!

A new method for using 2-Amino-2-methyl-1-propanol in floor wax emulsions, developed by CSC's Research Department, has opened the way for a greatly improved product. The new method consists of slightly reducing the AMP content and incorporating aqua ammonia. The result: wax with excellent water resistance which develops very rapidly after the wax film is laid down.

In addition to the rapid development of water resistance with the new AMP-ammonia formulations, considerable savings in costs may be expected since less AMP is required. Other performance characteristics of the AMP-ammonia formulations such as shelf-life, freeze-thaw resistance, leveling, and gloss were fully equal to the best commercial formulations.

Proved By Performance Tests

In a series of tests, the new AMP-ammonia formulation attained "excellent water resistance" in less than *two-thirds the time* required, and at *one-third the cost for amine* when compared with a typical formulation using morpholine. A new technical data sheet describing these and other tests made with typical commercial formulations is available on request.

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RODENT CONTROL

By James B. DeWitt*
U. S. Fish and Wildlife Service
Laurel, Md.

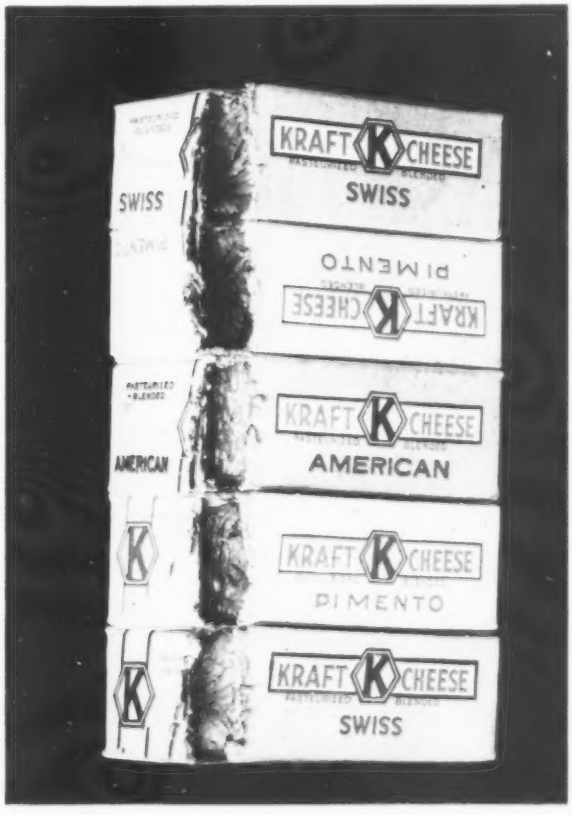
IT IS axiomatic that commensal rats and mice are unclean animals, and their presence is not compatible with the degree of sanitation now demanded in the food industry. It also is axiomatic that the industry provides suitable food and habitat for these animals, and that they are to be found in all areas where foods are produced, processed, transported, or stored. Since these facts are mutually antagonistic, their resolution necessarily involves elimination of the rodents, or the lowering of our sanitary standards.

Health Menace

THE SECOND alternative obviously is undesirable. The three common species of commensal rodents, the Norway rat, the house mouse, and the roof rat, are vectors in the spread of at least nine diseases affecting man and his domestic animals. One of these, trichinosis, seldom is transmitted directly from rodent to man, but requires an intermediate host. Another, rat-bite fever, requires direct contact between the animal and his victim. Five others, plague, murine typhus, tularemia, spotted fever, and scrub typhus are associated with rodent ectoparasites, and may be transmitted to man through the bite of these parasites, contact with their feces, or contact with an infected animal. Infectious jaundice and food poisoning may be transmitted by contact with urine or feces of infected rodents, or through consumption of food contaminated by the animals. The rodent menace to health offers ample justification for the activities of the Food and Drug Administration in condeming nearly 10,000,000 pounds of rodent-contaminated foodstuffs during the past four years.

Economic Loss

IN ADDITION to constituting a menace to health, rodents are responsible for significant economic losses. It has been estimated that the number of Norway rats in this country is equal to, or greater than, the human population. Under laboratory conditions, a rat will eat approximately 12 pounds of food per year, and this indicates that the total annual consumption by this species is more than 2,000,000,000 pounds. Part of this total consists of garbage and other items which are not suitable for human or livestock food, but much of it is valuable material taken from farms, warehouses, or other food-handling establishments. In many instances, the amount actually eaten represents only a small percentage of the food which is damaged or contaminated. Damage by mice may be



Grim evidence of the damage rodents can cause in the food plant or warehouse. In addition to economic losses, such damage constitutes an acute health hazard.

* Paper presented before the 43rd midyear meeting, Chemical Specialties Manufacturers Association, Chicago, May 21, 1957.



CONVINCING EVIDENCE—A swarm of mosquitoes in this test glass enclosure show no interest in the man's arm above the black line where meta Delphene repellent has been applied, although they feast on his untreated wrist and hand. (USDA Photo)

HOW TO BECOME UNPOPULAR WITH MOSQUITOES

A new and outstanding insect repellent—diethyl-meta-toluamide—developed by the United States Department of Agriculture for the Armed Services, is available in increasing commercial quantities from Hercules Powder Company under the name of meta Delphene.

USDA workers have found the meta isomer of diethyl toluamide to be the most effective repellent of the three isomers tested.

Hercules' background in xylene chemistry, coupled with its understanding of the rigid quality control procedures involved, has made possible the manufacture of a product with unusually high meta content. Meta Delphene (83% minimum meta isomer) is available only in a purified grade suitable for a cosmetic chemical.

This new repellent is highly effective against mosquitoes, chiggers, ticks, fleas, and biting flies. Meta Delphene offers many more characteristics ideal for manufacturers of repellents.

For example, it is odorless and does not rub off easily, providing longer protection than other repellents. It can also be applied directly to most fabrics and can be incorporated in dry-cleaning agents to furnish protection against insects.

Reports from the USDA, after two years of extensive tests, indicate that this new chemical will provide the best protection available against a wide variety of insects.

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Rat damage to ground bone fertilizer.

even greater than that caused by rats, so that the total economic loss attributable to these species amounts to several hundred million dollars per year.

Rodent Control

PREVENTION of these losses, and protection against rodent-borne diseases, requires consistent and systematic adherence to three cardinal principles of rodent control. These are: (a) use of rodent-proof construction to exclude the animals from food establishments; (b) maintenance of rigid sanitation practices, with destruction of areas providing harborage, nest sites, or food for rodents; and (c) use of effective toxicants for control of rodent populations. All are important, and none will be effective by itself.

Development of suitable toxicants for rodenticidal use is not easy. A satisfactory material must be highly effective when first exposed, and continue to give control for extended periods. Its use should involve little or no hazard to man or domestic animals, nor any danger of contaminating foodstuffs. A readily available antidote should be known and the toxicant be priced low enough so that the cost of rodent control will not be excessive.

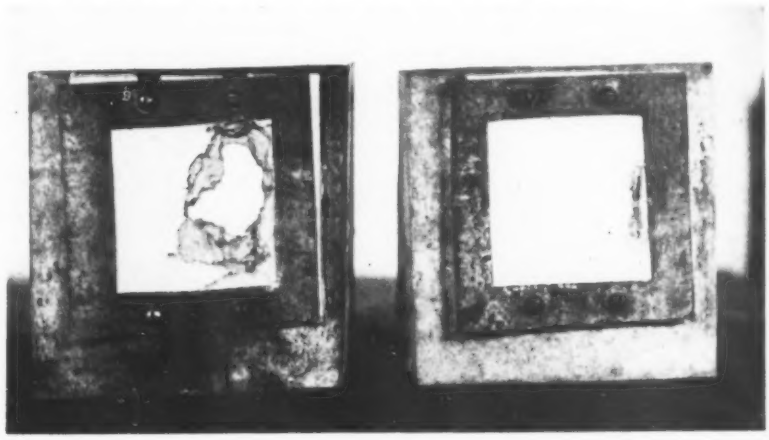
A number of various materials have been tried for this purpose, but most of them have failed to meet one or more requirements. Red squill is a safe and effective raticide, but does not give satisfactory control of mice. ANTU is effective against the Norway rat on first exposure, but surviving animals develop bait shyness and increased tolerance. Arsenicals, phosphorus compounds, and strychnine offer more or less effective control of one or more species of rodents, but their use involves distinct hazards to other animals. Thallium sulfate and sodium fluoroacetate give excellent rodent control, but several human fatalities and various accidents to livestock have been attributed to the use, or misuse of these compounds.

The anticoagulants now appear to offer the best available solution to the problem of rodent control. Three of these compounds, warfarin, fumarin and pival, are now available on the American market, and two others, Diphacinone and PMP are undergoing final tests prior to registration. All can be used for preparation of either cereal or liquid baits, and are used in low concentrations so that the finished bait offers slight hazard to other animals. Diphacinone is the most toxic member of the group, but will be used at lower concentrations than warfarin or pival. PMP promises to be cheaper than the other compounds, but this advantage may be partially offset by need for higher percentages in the baits.

Although development of the anticoagulants represents a marked advance in the field of rodent control, these materials have not eliminated the rodent problem in the food industry. There are several reasons for this. First, they have not been used as widely and as wisely as they should have been. Erroneous concepts of their efficacy may have contributed to this. Under ideal conditions, a rat may be killed by as little as 2 milligrams of warfarin, and it might be assumed that a pound of prepared bait would kill 50 or 60 rats. In actual practice, the animals eat several times the minimum lethal dose, and as few as 8 or 10 kills per pound of bait may result. Improper

(*Turn to Page* 92)

Comparison of resistance to rodent attack of treated (right) and untreated packaging materials. Untreated board was destroyed in 43 minutes; similar panel treated with chemical repellent was damaged only slightly after six hour exposure.



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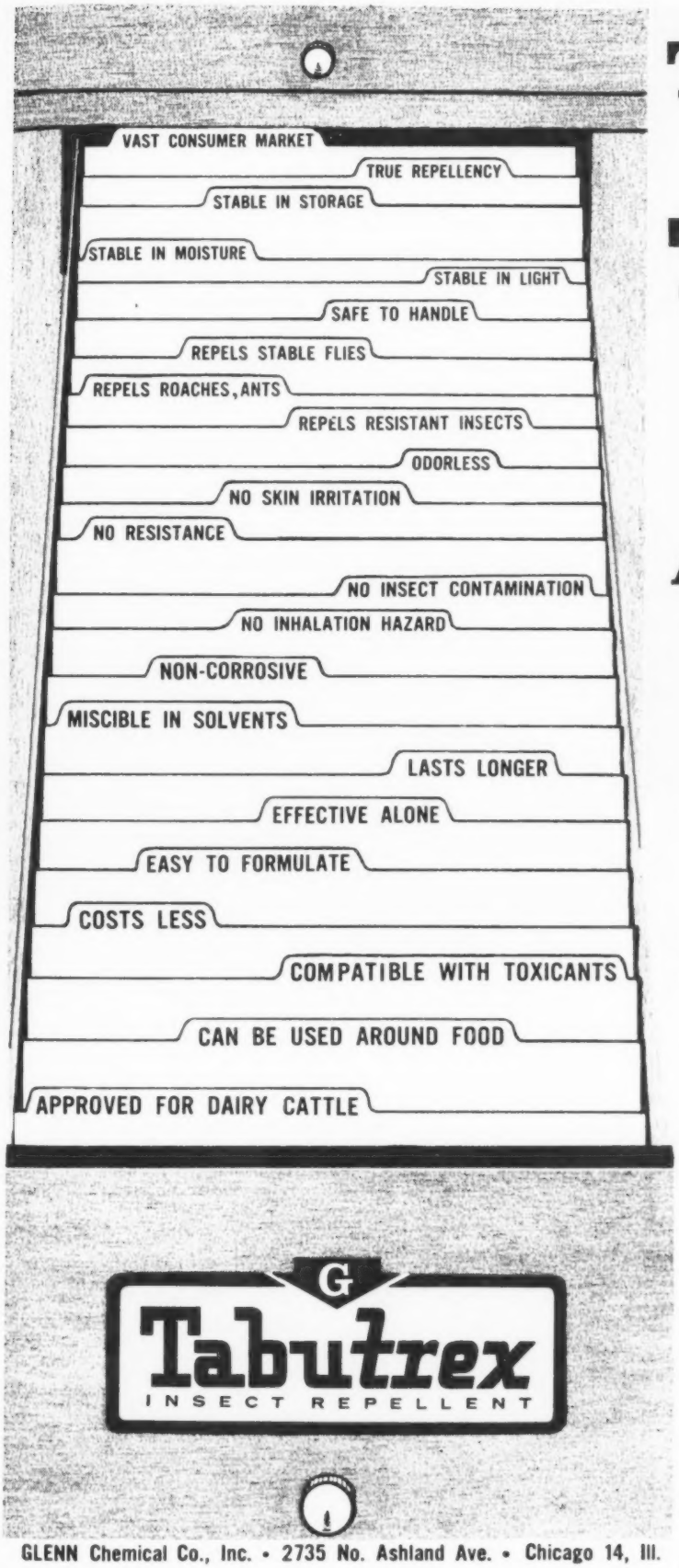
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(*Continued from Page* 89)
selection or handling of baits may reduce the kills still more. Cost of control operations may have been a limiting factor in some instances. Prepared baits retail at as much as $1.75 per pound, and we have received a number of letters indicating increasing consumer resistance to such prices. A third factor, which has not received adequate study, may be individual variations in susceptibility to the compounds. Laboratory tests have shown that some rats survive after ingesting several times the average lethal dose, and it is possible that such resistant animals and marginal feeders are maintaining rodent populations in some areas.

Rodent Repellents

A SECOND phase of chemical control of rodent activities has not as yet become commercially practical. This is the use of repellents for protection of foods while in transit or storage. In essence, this involves placing a chemical barrier about the article to be protected, and it may be questioned whether any such barrier will be effective in deterring rodent attacks. Studies in our service laboratories in Laurel, Md., and Denver, Colo., indicate that at least partial protection can be afforded in this manner, and that it is highly probable that further work will lead to the development of still more effective repellents.

Nearly 7,000 compounds have been tested in the course of these studies. Each compound has been classified according to chemical composition and structure, and it has been found that repellent activity is associated with, or enhanced by, certain functional groups or configurations. Hydrocarbons, ethers, alcohols, carboxy acids, and most esters are not repellent, but many amines, amides, thiocyanates, thiocarbamates, and other materials containing halogen, nitrogen or sulfur show appreciable activity. Cyclic compounds are more repellent than aliphatics, and the presence of unsaturated bonds increases activity.

As yet, no compound has been shown to meet all requirements for a successful repellent. Actidione, a by-product in the manufacture of streptomycin, effectively prevents rodent attacks upon treated articles, but is too expensive for general use, and too toxic for use around foods. Tetramethyl thiuram disulfide, N-butyl phthalimide, and amine complexes of trinitrobenzene or zinc dimethyl dithiocarbamate are repellent, but have failed to give complete protection. One of the most promising materials now available is the ethyl ester of 2, 3, 4, 5-tetrachloro furoic acid. This compound, commonly known as CEFRO, has been under test in our laboratories for more than four years, and has been shown to be highly repellent. Recent reports by the manufacturer indicate that it may be stabilized by combining with polyvinyl acetate, and that rats and mice avoid areas which have been treated with this polymerized material.

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CHEMOCIDE PKS

Sodium Propyl p-Hydroxybenzoate

CHEMOCIDE DHS

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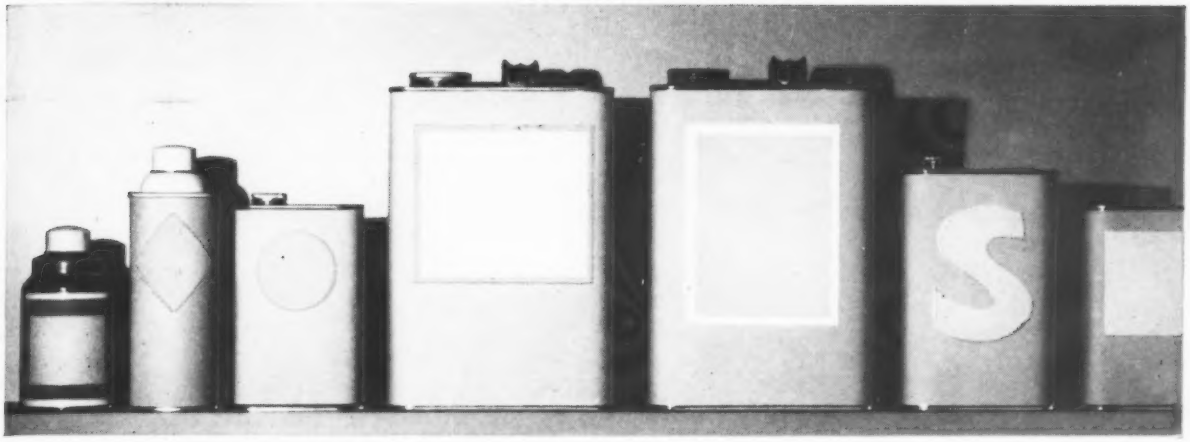
CHEMOCIDE PZN

Zinc Proportionate

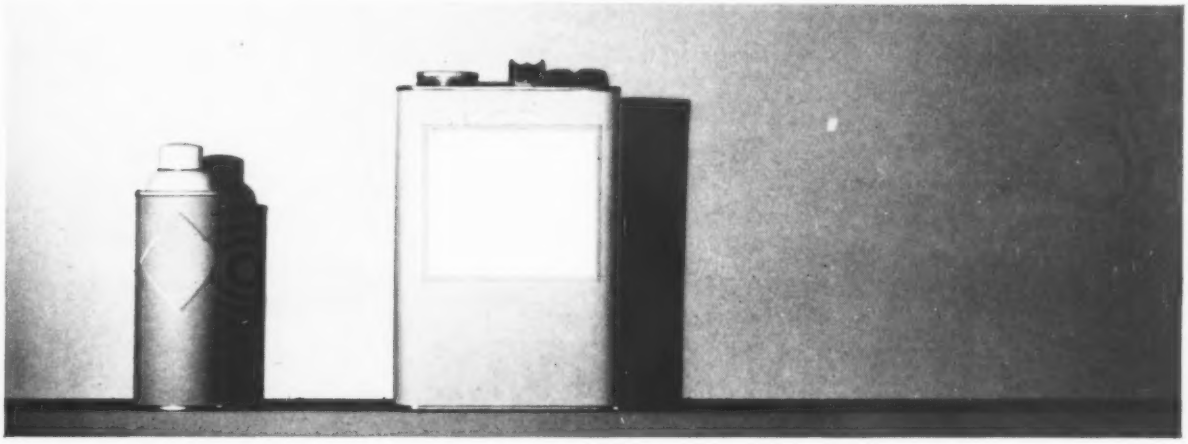
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Diethyltoluamide:

NEW INSECT REPELLENT

By I. H. Gilbert, H. K. Gouck and Carroll N. Smith*

Entomology Research Division
Agricultural Research Service
U. S. Dept. of Agriculture

Part II—Clothing Treatments

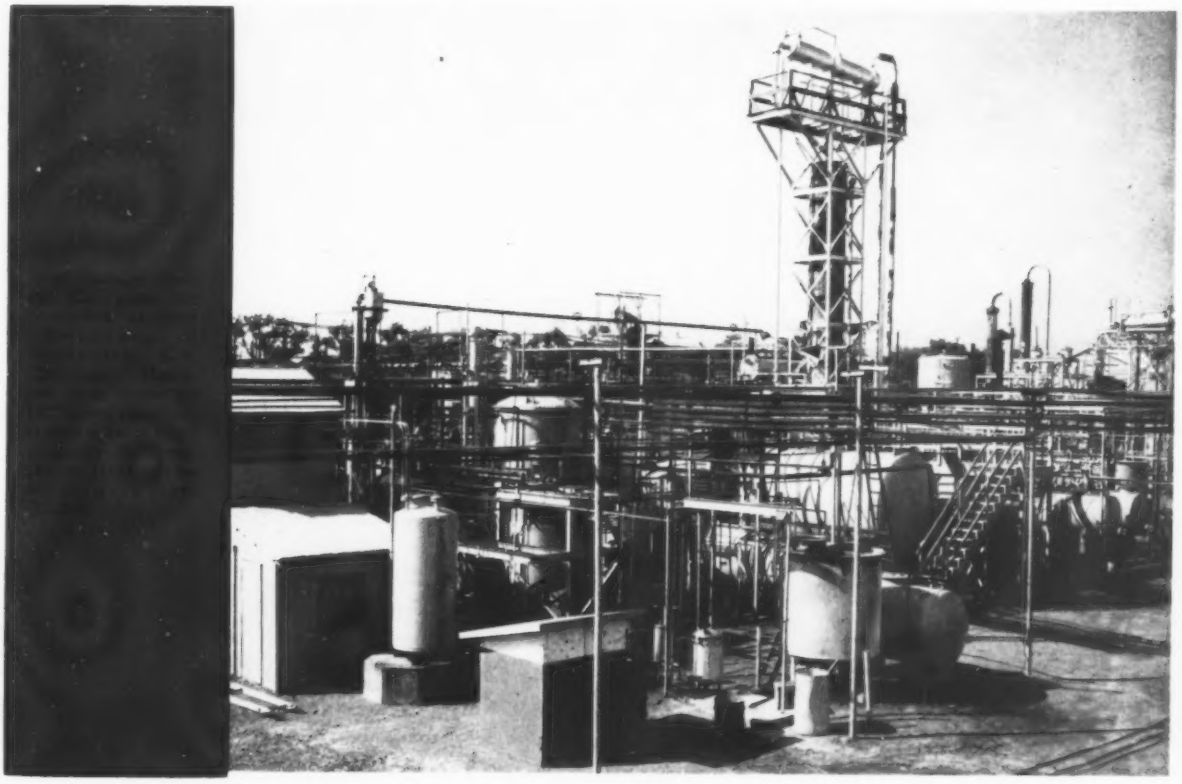
THE repellents were applied to cotton stockings for tests against mosquitoes and fleas, to cotton twill patches or twill sleeves for tests against chiggers, and to cotton fatigue uniforms for tests against ticks. They were applied as solutions in a sufficient quantity of acetone to saturate each piece of fabric.

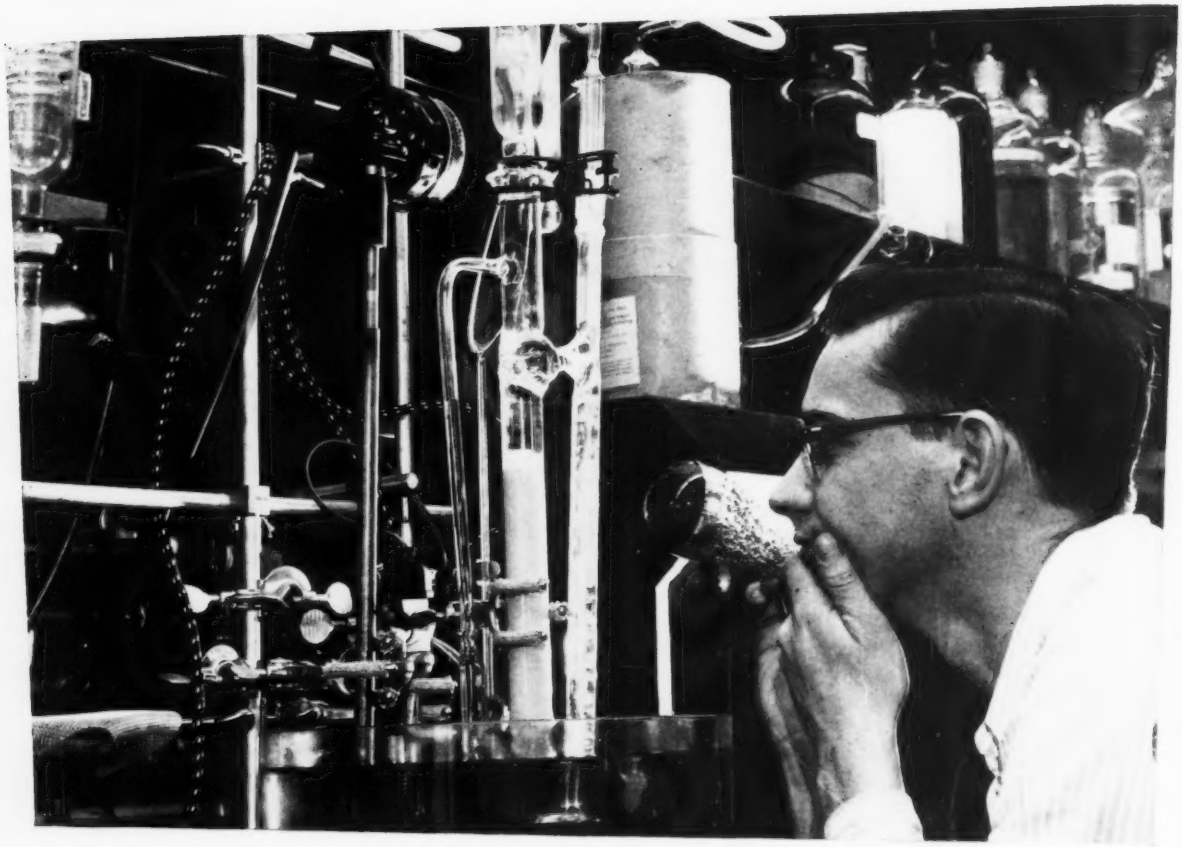
Tests with Aedes aegypti and taeniorhynchus: In laboratory tests against *aegypti* treated stockings, on the arms of subjects, were exposed for one minute to caged mosquitoes. The tests were repeated after various intervals of aging until more than 10 bites were received through the stocking in a single exposure. Between tests the stockings were hung in a well-aired room. An index of effectiveness in comparison with a standard repellent (M-1960 or diethyltoluamide) was computed by the following formula:

$$\text{Index of effectiveness} = \frac{(10 - B)\,D}{(10 - b)\,d}$$

where B and b equal the average number of bites per test with the test repellent and standard, and D and d equal the days the test repellent and standard, respectively, remained effective. An index of more than 1.00 indicates increased effectiveness.

* Nelson Smith, R. L. Eye, R. A. Sutton, S. R. Pratt, R. H. Ford, and D. W. Meifert took part in the testing.





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Table 13

Comparative effectiveness of two individual repellents and eight mixtures as clothing treatments against Aedes aegypti (3 tests).

Repellent	Days effective	Index of effectiveness
First Series		
Diethyltoluamide		
Lot I	58.3	3.23
Lot II	52.3	2.88
Standard: M-1960	19.0	1.00
Second Series		
M-2084	67.7	3.10
M-2085	60.3	2.57
Standard: M-1960	23.3	1.00
Third Series		
M-2089	29.3	2.97
M-2091	35.3	2.78
Standard: M-1960	9.0	1.00
Fourth Series		
Diethyltoluamide		
69% meta	49.3	1.00
72% meta	45.3	.95
M-2108	32.3	.60
M-2109	27.6	.53
M-2110	29.3	.58
N,N-Diethyl-*o*-toluamide	27.6	.52

The results of tests with two individual repellents and eight mixtures are given in Table 13. Diethyltoluamide and four mixtures containing it were 2.5 to 4.0 times as effective as M-1960. The ortho isomer of *N,N*-diethyltoluamide and three mixtures containing it were less effective than technical diethyltoluamide containing 69 or 72 per cent of meta.

The tests with *taeniorhynchus* were made against natural populations of mosquitoes in the field. Treated stockings were exposed on the legs of three subjects in succession for five minutes each. The tests were repeated at intervals until on an average five bites were received on the three different hosts. Each stocking was worn eight hours before each test. An index of effectiveness in comparison with a standard repellent, M-1960, was computed by the following formula:

$$\text{Index of effectiveness} = \frac{(5 - B)\,H}{(5 - b)\,h}$$

where the values for B and b are as given above and H and h are the hours of wear withstood by the test repellent and the standard, respectively.

The results of tests with diethyltoluamide and six mixtures are given in Table 14. M-2085 and M-2091 were about 20 per cent more effective than M-1960, and the other mixtures and diethyltoluamide were about equal to it.

Tests with Xenopsylla cheopis: Tests against *Cheopis* (the oriental rat flea) were conducted in a 4-by-4 by 1.3-foot pen that contained approximately 2,000 fleas. Two men wearing shorts and treated cotton stockings were exposed in the pen for 15 minutes, and the fleas that crawled over the stockings as far as the knee were removed and counted. Each treatment was tested concurrently with each other treatment an equal number of times. The tests were repeated after the treatments had aged for various periods.

The results of tests with two individual repellents and six mixtures are given in Table 15. All the repellents except *o*-ethoxy-*N,N*-diethylbenzamide were more effective than the standard, M-1960. Mixtures M-2084, M-2085, and M-2092 showed a gradual increase in effectiveness from the first day through the fifth week, whereas the effectiveness of M-2091 and diethyltoluamide decreased during the five weeks of testing. The effectiveness of M-2089 remained about the same during the test period.

Results of tests comparing technical diethyltoluamide, the pure ortho isomer, and three mixtures of the two are given in Table 16. All the test repellents were better than the standard, M-1960, for three to four weeks, but only technical diethyltoluamide after seven to eight weeks. The ortho isomer was more effective than the

Table 14

Comparative effectiveness of diethyltoluamide and six mixtures as clothing treatments against A. taeniorhynchus. (Stockings treated with diethyltoluamide at 2 grams per square foot and with mixtures at 3.6 grams; 3 tests).

Repellent	Hours of wear withstood	Index of effectiveness
M-2084	67	1.11
M-2085	72	1.19
M-2089	69	1.14
M-2091	77	1.22
M-2092	59	1.09
Diethyltoluamide	59	1.02
Standard: M-1960	56	1.00

Table 15

Relative effectiveness of two individual repellents and six mixtures as clothing treatments against Xenopsylla cheopis (7 tests; dosage of 2 grams per square foot for individual repellents and 3.6 grams for mixtures).

Repellent	Number of fleas on stockings after aging			Ratio of effectiveness to M-1960		
	1 day	3 weeks	5 weeks	1 day	3 weeks	5 weeks
M-2084	3.3	1.8	1.4	2.0	2.2	6.9
M-2085	4.6	1.4	.7	1.4	2.9	14.7
M-2089	1.2	1.7	2.2	5.4	2.4	4.5
M-2091	.5	4.1	4.2	11.6	1.0	2.3
M-2092	4.2	2.2	1.6	1.5	1.8	6.2
Diethyltoluamide	.4	1.2	4.9	16.9	3.4	2.0
o-Ethoxy-*N,N*-diethylbenzamide	7.3	8.5	14.4	.9	.5	.7
Standard: M-1960[1]	6.4	4.0	9.7	1.0	1.0	1.0

[1]Showed 95% protection for 21-25 days in other experiments.

Table 16

Effectiveness of repellents containing various concentrations of the meta isomer of diethyltoluamide as clothing treatments against Xenopsylla cheopis (3.6 grams per square foot of M-1960, 2.0 grams of other repellents; 6 stockings with each treatment tested after 1 day of aging and once each week).

Repellent	Per cent meta isomer	Number of fleas on stocking after aging				
		1 day	1-2 weeks	3-4 weeks	5-6 weeks	7-8 weeks
Diethyltoluamide	69	0.50	0.50	0.75	2.75	9.17
M-2108	52	.67	.91	1.42	6.50	31.50
M-2109	34	.17	.08	.58	10.33	55.25
M-2110	17	.17	.00	1.08	26.66	75.33
N,N-Diethyl-*o*-toluamide	0	.00	.00	1.58	5.67	18.16
Standard: M-1960	0	9.83	3.33	13.16	11.16	18.66

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technical material for one to two weeks but less effective thereafter. The effectiveness of the mixtures and their meta-isomer content were in inverse correlation during the first two weeks and in direct correlation after five to eight weeks. All the mixtures were less effective than either of their two ingredients after five to eight weeks.

Tests with Trombicula splendens: Aging tests against *splendens* (chiggers) were conducted with treated cotton patches fastened to glass plates. Five chiggers were confined on a patch within a rubber ring and covered with another glass plate. A material was considered to be effective if the chiggers were immobilized within 15 minutes. The patches were hung in a well-aired room between tests.

In tests of resistance to washing, treated sleeves were attached to subjects' arms with adhesive tape at the upper margins, and the hands were placed on the ground in areas of large chigger populations. Exposures were for about 15 to 30 minutes, and the arms were examined about an hour after exposure. In each test one or two untreated sleeves were worn, and the effectiveness of the treatments was expressed as per cent protection derived from the following formula:

$$\text{Per cent protection} = \frac{\text{Number on check} - \text{number on treated}}{\text{Number on check}} \times 100$$

The sleeves were tested after fresh treatments and after successive 10 minute washings, each followed by two, five minute rinses and drying before retesting. A treated sleeve was not subjected to washing or further testing when the protection fell below 90 per cent.

Diethyltoluamide, M-2084, and M-2085 were more effective than the standard, M-1960, in the aging tests (Table 17), but were less effective in the washing tests (Table 18). Mixtures M-2089 and M-2091 were about half as effective as the standard. With few exceptions, all freshly treated sleeves gave 100 per cent protection.

Tests with Amblyomma americanum: Regulation two-piece army fatigue uniforms treated with diethyltoluamide, M-2091, or M-1960 were tested after consecutive eight-hour periods of wear in areas heavily infested with nymphs and adults of *americanum* (the lone star tick). After exposure of one to two hours, depending on the abundance of the ticks, the subjects went to an uninfested location where they remained for about one hour to give the ticks time to attach, drop off, or die, according to the effectiveness of the repellent. In each test one subject wore an untreated uniform as a check. At the end of the waiting period the uniforms were removed and all ticks on the clothing and body were counted. The effectiveness of the repellent was expressed as per cent repellency.

The uniforms treated with M-1960 (Table 19) had the lowest infestation, while those treated with diethyltoluamide had the highest.

Table 17

Aging tests with three repellent mixtures and diethyltoluamide against Trombicula splendens (3 tests).

Repellent	Dosage (grams/sq.ft.)	Days[1] effective
Diethyltoluamide	1	15
	2	46
M-2084	1	28
	2	57
M-2085	1	5
	2	57
Standard: M-1960	1	11
	2	23

[1]Based on knockdown time of less than 15 minutes.

Table 18

Resistance to washing of various repellents as sleeve treatments for protection against Trombicula splendens. (3 tests; 2 grams per square foot for individual compounds and 3.6 grams for mixtures).

Repellent	Number of washings withstood: 100 per cent protection	90 per cent protection
First Series		
Diethyltoluamide	0	0
o-Ethoxy-*N*,*N*-diethylbenzamide	0	1.0
M-2084	0.7	.7
M-2085	0	0
M2091	1.3	1.7
Standard: M-1960	1.3	3.0
Second Series		
M-2089	.3	1.3
Standard: M-1960	2.3	3.7

Summary

TECHNICAL diethyltoluamide containing about 70 per cent of the meta isomer was tested alone and in mixtures with *o*-ethoxy-*N*,*N*-diethylbenzamide, ethyl hexanediol, and other repellents against various insect species.

In skin applications diethyltoluamide was the most effective repellent in protection-time tests against *Aedes aegypti* (L.) and *taeniorhynchus* (Wied.), and mixtures containing it were about as effective as would be expected from the amount of each ingredient. Diethyltoluamide was about twice as effective against *taeniorhynchus* as the standard mixture M-2020. It retained its superiority against both species under sweating conditions. Its margin of superiority was even greater with respect to resistance to removal by wiping and rinsing. Decreasing the amount of meta isomer by adding the pure ortho isomer to the technical diethyltoluamide reduced its effectiveness against both species, especially its resistance to wiping.

Diethyltoluamide was also

(*Turn to Page* 109)

Table 19

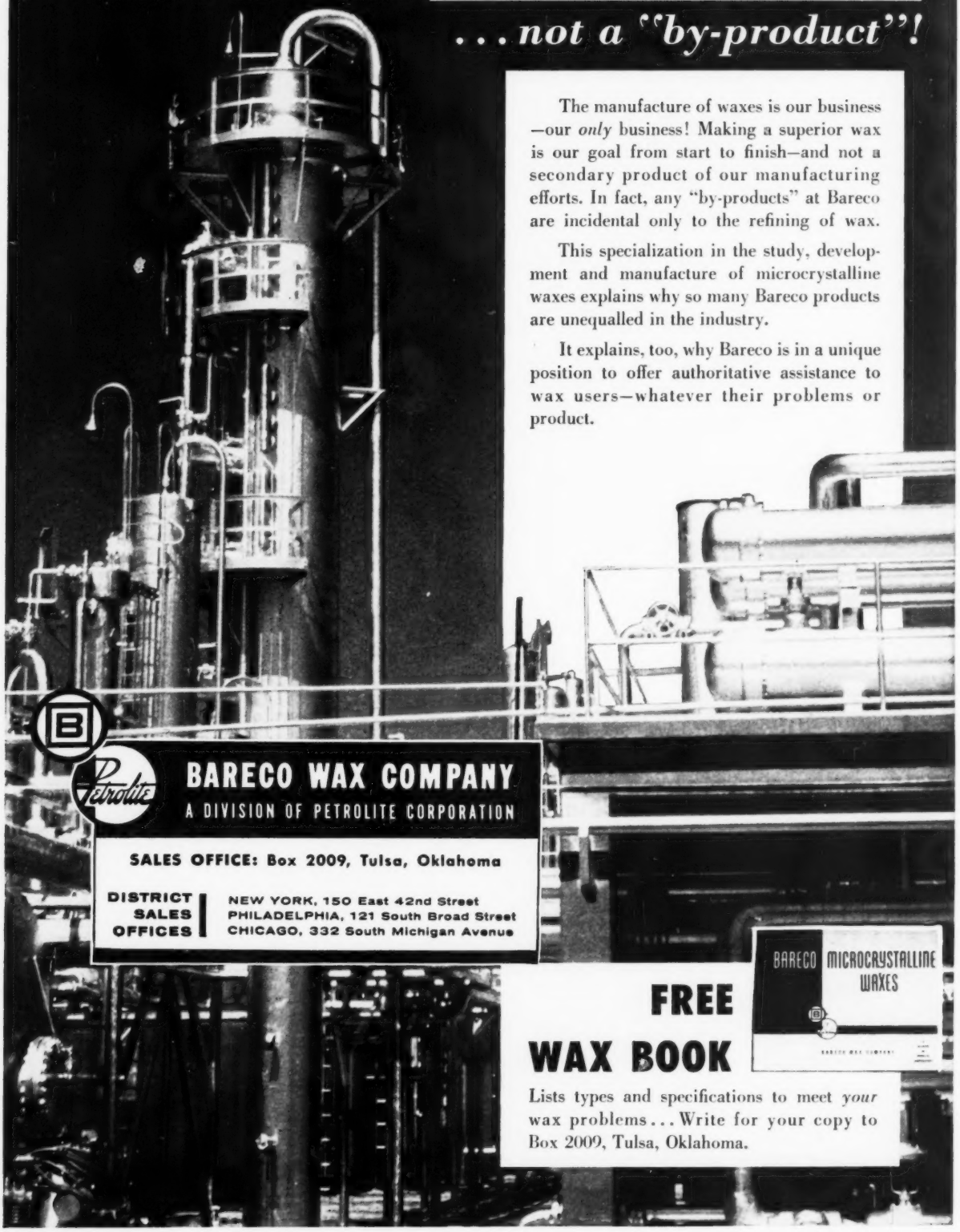
Comparative effectiveness of three repellents as clothing treatments against Amblyomma americanum (2 to 6 tests).

Repellent	Dosage (grams/sq. ft.)	Per cent repellency after indicated hours: 8	16	24	32	40	48
Diethyltoluamide	2.0	52	78	61	78	35	60
M-2091	2.8	98	85	80	86	77	83
Standard: M-1960	3.6	99	96	92	97	87	94

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175. High hopes are held out for the future growth of aerosols as a means of packaging pharmaceuticals and medicinals, which in the past three years have been growing steadily, if not spectacularly. Beginning in 1954, 831,301 pharmaceutical aerosols were produced, a figure which rose to 1,134,405 the following year and in 1955 reached 1,455,-179. Products in this classification include fungicides, burn treatments, topical antiseptics, anesthetics, antibiotics, inhalants, etc.

The 1956 survey, which includes production totals for years back to 1951, gives figures on types and sizes of containers, and total output of aerosol valves and aerosol containers. The names of the can and valve makers and aerosol fillers who particiated in the survey are also listed. According to the survey the total number of cans produced and sold in 1956, as reported by four companies, was 327,954,551; 12 aerosol valve companies produced and sold 357,475,256 aerosol valves. Information on which the survey is based was obtained from 83 aerosol loaders of the 133 to whom questionnaires were sent. Last year 67 companies participated. A notable omission from the list of participants was Boyle-Midway, Inc., a subsidiary of American Home Products Corp., New York, and one of the largest aerosol marketers and loaders.

Although actual reported production was 293,190,453 units in 1956, the official figure of 320,-000,000 includes conservative estimates of production by companies not participating in the survey.

The 1956 survey differs in two other respects from those of previous years. For the first time in the six years the surveys have been made figures on high pressure aerosols were dropped. Since very few producers contribute to this relatively small figure, it was requested that this category be discontinued.

A new classification of metal containers was added: "16 ounce but over 12 ounce," which means a container of 16-ounce capacity loaded with over 12 ounces of material. There are also "12 ounce but over 6" and "6 ounce and less" categories. Smaller size containers of up to six ounce capacity outnumbered the 12-ounce aerosol container first introduced in 1946. The container increase for 1956 was almost entirely in the "6 ounce and less" and the "16 ounce but over 12 ounce" groups, with the latter size accounting for 32,776,949 units in the first year of use, 1956.

Use of glass containers for aerosols increased by about 50 per cent last year. Slightly more than 15 million units of aerosol products were packed in glass last year, as compared with 10,411,560 units in 1955.

Responsible for the aerosol survey were Frederick G. Lodes of Lodes Aerosol Consultants, chairman of the Aerosol Survey Committee; R. A. Crane, E. I. du Pont de Nemours & Co.; Frank Hormann, A. Schrader's Sons; Al Pero, Fluid Chemical Co.; Al Marks, Wheaton Plastics Co., William Sherry, General Chemical Division, Allied Chemical & Dye Corp. The report was presented by Mr. Lodes.

Automotive Division

HIGHLIGHT of the Automotive Division's first session the afternoon of May 21 was the presentation of figures on brake fluid production and consumption of anti-freeze solutions last year. Both reports were explained by the committee chairman, C. E. Allderdice, Jr., Bell Co., Chicago.

Based on reports from the nation's 30 manufacturers of brake fluid, 9,590,234 gallons were produced in 1956. This was a drop of 9.7 percent from the 1955 volume of 10,624,619 gallons, and was attributed to "considerably lower" automobile production last year and to average per registered vehicle consumption of 0.177 gallons, as compared with 0.21 gallon per car in 1955. The increased number of late model cars on the road during 1956 was also considered a possible explanation of the year's consumption drop.

Satisfaction was taken in the fact that 55.5 percent of 1956 production was heavy duty fluid, which is mandatory in seven states that now have brake fluid laws. About a quarter of last year's production met the SAE moderate duty specifications, while 255,162 gallons met government specifications not included under the SAE heavy duty specifications.

"It is interesting to note," says the report, "that, during 1956, 83 percent of the production conformed to either the SAE or government specifications and that only 17 percent of the production did not meet these specifications."

Estimates of 1956 anti-freeze



Harry E. Peterson, president CSMA and head of Peterson Filling and Packaging Co., Danville, Ill., presents to Miss Fran Allison, TV and radio star, an aerosol symbolic of the billionth unit produced. Miss Allison was selected by aerosol producers as representative of well groomed, busy American women whose acceptance of aerosols has made possible their amazing growth. Presentation, sponsored by the aerosol division of CSMA, was made during recent meeting of the association.

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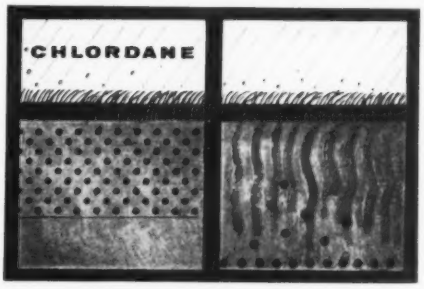
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consumption (based on manufacturers' reports accounting for about 97 percent of total production) indicated sale of at least 107 million gallons of anti-freeze last year.

This was down about 2.8 percent from the 1955 survey. Nearly four out of five purchasers selected the higher-priced permanent or ethylene glycol type solution while the non-permanent, methanol type product accounted for 23 million gallons or 21 percent of 1956 sales.

In a symposium on "Brake Fluids," moderated by the division's chairman, Harold G. Lederer, of R. M. Hollingshead Corp., Camden, N.J., the first speaker, Donald H. Hanson, also with Hollingshead, led off with a statement of what the SAE is doing on proposed new specification 70 R 3 to be recommended for brake fluids with a boiling point of 375° F. As new developments appear, he said, SAE will continue to formulate revised specifications that will insure an adequate margin of safety.

The subject of "State Legislation and Trends" was covered next by Robert L. Ackerly of CSMA's Washington, D. C., legal counsel, who was introduced as "the leading authority on brake fluid legislation in the U. S." Eight states now have brake fluid laws, Mr. Ackerly reported, and in a ninth, Arkansas, a new law will become effective Jan. 1, 1958. Seven of the eight permit only heavy duty fluid. Mississippi permits both heavy and moderate duty types and Arkansas has not yet announced its requirements.

In nine other states, he continued, proposed laws are pending, to date, with fair or good chances of passage by several of the legislatures. A Texas bill was awaiting the governor's expected signature. Mr. Ackerly also discussed the problem of enforcement or lack of it where the law has been made a part of the penal code. Promotion of state laws governing brake fluids has been largely sponsored by automobile associations, he claimed. He suggested that CSMA's automotive division could well be more active in this work.

In discussing "Merchandising of SAE Fluids," Joseph D. Ryan, field sales manager, brake fluid automotive products, Olin-Mathieson Chemical Corp., Baltimore, Md., asserted that few car owners know much about quality brake fluids and their relation to highway safety.

The lack of knowledge of the danger of insufficient or deteriorated brake fluid is "staggering" he declared. If motorists understood the importance of preventive maintenance with respect to brake fluids he thought few of them would object to regular checkups on the quantity and condition of the compound in their cars. He suggested a new basic consumer education program stressing use of SAE recommended fluids from the safety and efficiency standpoint. CSMA and brake fluid manufacturers, he suggested, should cooperate on such a program which could be focused on national associations serving the consumer of the product.

Final symposium speaker was L. E. Carr of the Bell Co., Chicago, who outlined the model setup for a hypothetical concern going into manufacture of brake fluids. Two other scheduled speakers, L. M. Lawton, of General Motors Corp., and J. E. P. Darrell of the Minnesota state highway department, were unable to be present.

In the joint session of the Automotive with the Waxes and floor Finishes Division, May 22, the first speaker, Francis E. Chapman, development supervisor, S. C. Johnson & Son, Inc., Racine, Wis., described a device for measuring shock resistance of paste waxes. This had been developed in his firm's laboratory, he explained, after tests with the commonly used "cone penetrometer" technique, was shown to be inadequate in various particulars.

Another paper, "Fluid Mixing in Chemical Specialty Manufacture," was presented by James Y. Oldshue, director of research, Mixing Equipment Co., Rochester, N.Y. Part I of this paper begins on Page 141.

Still another technical paper, presented by John D. Saunier, Authority Laboratories div., The Bardahl Oil Co., St. Louis, Mo., described an investigation in which radio active tracers were used to determine the thickness and durability of applied auto wax films.

"Are Service Stations Ready For Supermarket Merchandising?" was the provocative question raised by the afternoon's final program speaker, Donald E. Cluck, sales manager, Simoniz Co., Chicago. Looking into the future, Mr. Cluck envisioned the service station of a few years hence as occupying "one or two" acres of ground, where its departmentalized services are handled in "six of eight" ways, easily accessible to the drive-in motoring public. Service stations modeled on the "super mart" pattern are already located along toll highways and at highway truck stops, but, as yet, he declared, most service stations are "where the grocers were twenty years ago, before the advent of the super mart foodstore."

Meanwhile he offered suggestions on how today's service station can improve its merchandising techniques and expand its sales volume of related automotive items, through which, he pointed out, chemical specialty manufacturers could expect to derive considerable benefit.

Insecticide Survey

AN increase of about 35 per cent over 1955 in the over all sales of insecticides in 1956 was reported in the annual survey of household and industrial insecticides. The report was presented by Dr. George W. Fiero, Esso Standard Oil Co., New York, during the first session of the Insecticide Division, the afternoon of May 21.

Although the report indicates a substantial gain in the sale of insecticides last year, which was considered a "poor year" for insects, some of the increase shown in the report is probably due to the fact that the 1955 and 1956 figures are

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not precisely comparable. Last year 173 companies submitted sales figures, as against 118 firms reporting in 1955.

Sales of liquid sprays in 1956 rocketed to 16,968,000 gallons from 10,557,386 gallons in 1955. But the 1956 figure includes 2,366,533 gallons of area fogging sprays, a category not previously listed. The liquid spray total of nearly 17 million gallons breaks down into 10,666,228 gallons in packaged form, and 6,302,372 gallons in bulk.

Packaged space sprays, largest single item in the liquid group, climbed to 4,188,301 gallons in 1956 from 1,797,515 gallons sold in 1955, a marked recovery from the downward trend exhibited by this group last year.

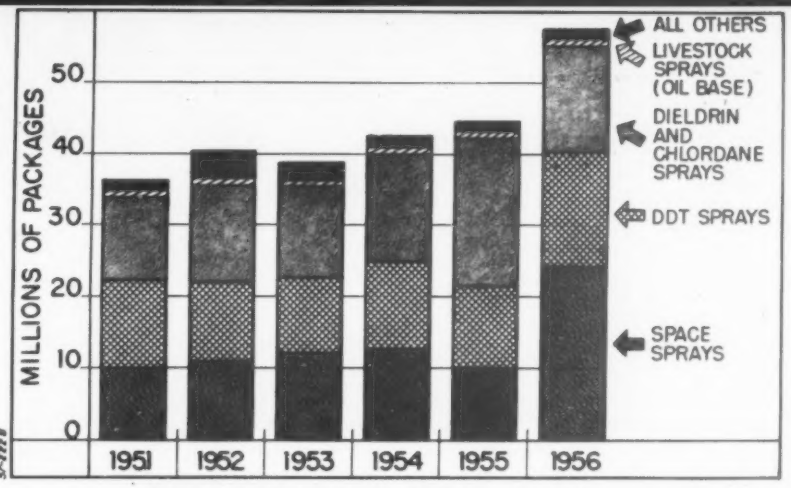
Sales of packaged DDT residual sprays increased in 1956 to 2,489,177 gallons from 1,960,935 gallons in 1955. While this represents an increase of 26.94 per cent, the share of these products in the over all market remains unchanged.

Packaged chlordane and dieldrin sprays fell off sharply from 3,520,297 gallons in 1955 to 2,691,700 gallons in 1956, a drop of 23.54 per cent.

A large increase in the sale of fabric pest sprays is entirely accounted for by bulk sales, with packaged sales actually showing a decrease. Total fabric pest sprays sold in 1956 amounted to 1,704,146 gallons, compared with 155,110 gallons in 1955. Bulk sizes constituted 1,619,460 gallons in 1956, against 23,533 gallons in 1955. Sales of packaged sizes dropped from 131,577 gallons in 1955 to 84,686 gallons in 1956.

Total sales of oil base livestock sprays increased four per cent from 1,800,593 gallons in 1955 to 1,874,003 gallons in 1956. This increase was entirely accounted for by bulk sales which grew from 874,318 gallons in 1955 to 973,166 gallons in 1956. Packaged sales, on the other hand, dropped from 926,275 gallons in 1955 to 900,837 gallons in 1956.

Sales of all livestock emulsion concentrates dropped 46.6 per cent,



TOTAL INSECTICIDE SPRAY SALES

FIGURE 3

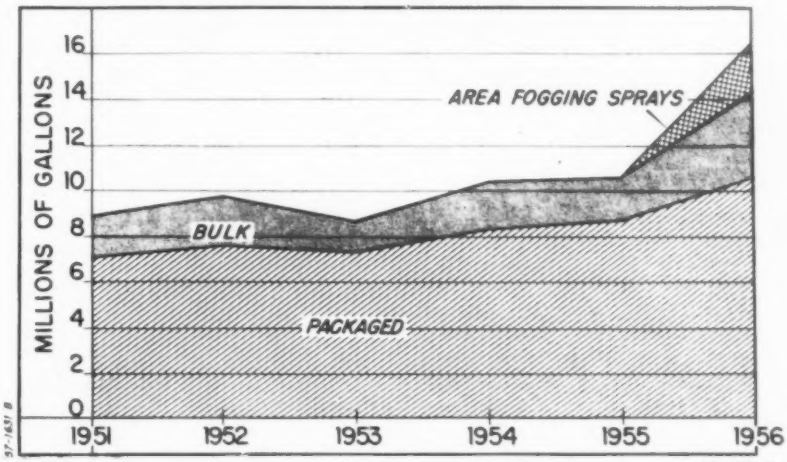


FIGURE 4

RELATIVE SHARE OF MARKET
OF PACKAGED HOUSEHOLD INSECTICIDE SPRAYS

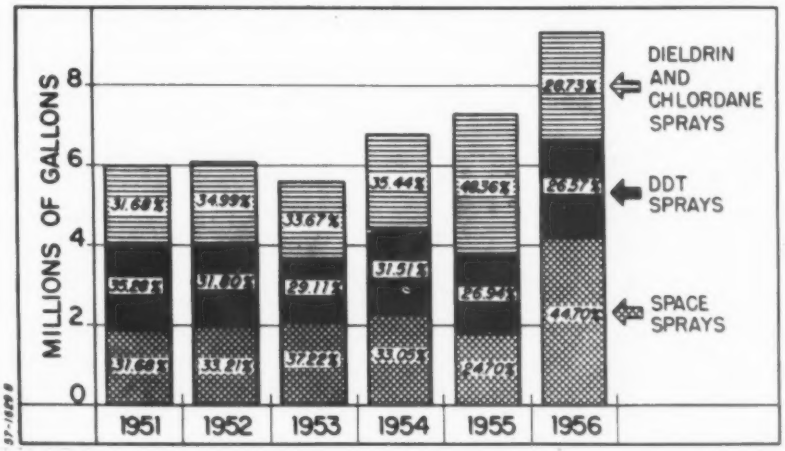
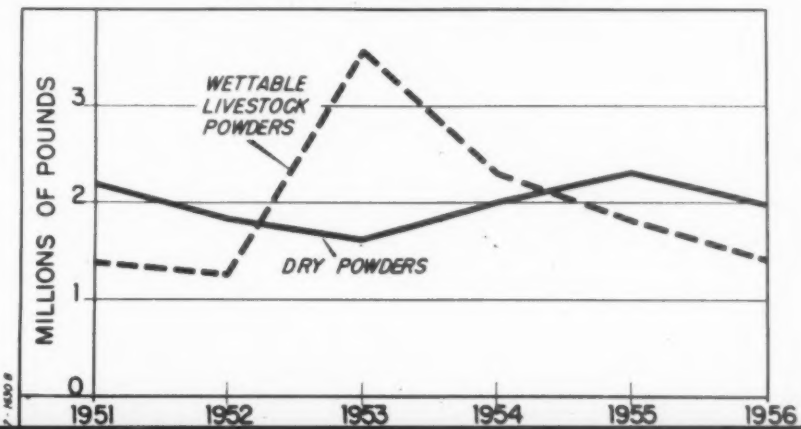


FIGURE 5

SALES OF HOUSEHOLD
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from 354,633 gallons in 1955 to 189,148 gallons in 1956. Package sales fell from 221,715 gallons to 148,912 gallons; bulk sales from 132,918 gallons to 40,246 gallons.

Other non agricultural emulsion concentrates in packages showed a sales growth of from 72,988 gallons in 1955 to 100,497 gallons in 1956, while bulk sales dropped from 222,996 gallons to 147,483 gallons. Sales of non-emulsion concentrates rose sharply from 53,797 gallons to 124,254 gallons in 1956.

Livestock wettable powders continued their downward sales trend, dropping from 1,827,707 pounds in 1955 to 1,393,993 pounds in 1956. Sales of other powders decreased from 2,318,873 pounds to 2,063,631 pounds.

Small pet insecticide (other than powders) sales showed a very slight drop, 98,034 units in 1956 against 98,534 units in 1955.

Sales of insect repellents in 1956 amounted to only 752,676 units of which about 70 per cent were in containers smaller than two ounces. This compares with 1,036,270 units in 1955, representing a loss of 27.4 per cent.

A sharp increase in sales of vaporizer chemicals brought the 1956 figure to 591,670 units from 206,954 units reported in 1955.

The annual Industrial Floor Products survey will be ready for the 44th annual meeting in December, it was pointed out by H. J. Mellan, chairman of the Waxes and Floor Finishes Division at the morning session May 21. Mr. Mellan is with Durez Plastics Division of Hooker Electrochemical Co., North Tonawanda, N. Y. A delay in issuing the survey was caused by a revision in the method of reporting, Mr. Mellan said. He also indicated a survey of household floor products is currently under consideration. Such a survey will be made when the problem of obtaining adequate coverage has been resolved.

A prediction that aerosol production will hit one billion units annually by 1960 was made in a talk by John N. Heinen, Jr., of Continental Can Co. Mr. Heinen's prediction was made during a symposium marking the 10th anniversary of the introduction of low pressure aerosols.

In the same panel, H. W. Hamilton, CSMA secretary reminded the Aerosol Division that it was "fortunate that CSMA and its predecessor, NAIDM, had the experience and knowledge of the laws covering aerosol ingredients, etc., which helped aerosol packagers."

Dr. Winston H. Reed, Reed Research Corp., Shelton, Conn., another panelist, said aerosol packers had been aided in their growth by component makers, including propellant, valve and container suppliers. "Future trends are not hard to predict," he said, listing "improved can linings, better valves and other improvements making possible the use of cheaper propellants."

In his estimate of the future of aerosols, Joseph H. Fredette of American Can Co. predicated "push button packages produced by push button methods." He also foresaw future filling lines handling more than 300 operations a minute with less labor than is now required to fill 60 to 150 units per minute. Manual operations that will become automatic, he predicted, include the receiving, storing and feeding of cans to the line; insertion of valves; application of buttons and overcaps, and packing, sealing and stacking of cartons.

Virginia Gale, radio station WGN's women's editor, "as a consumer offered her congratulations on the 10th anniversary of low pressure aerosols and thanked producers for many benefits of aerosols." She did criticize aerosol marketers for making a "great mistake in not educating consumers to the aerosol principle."

"It is time to take stock of aerosol marketing," Stuart Watson, of Marschalk and Pratt division of McCann-Erickson, Inc., New York advertising agency, final panelist stated. "It is a mistake to think of an aerosol market," he said. "We should think of aerosol insecticides, aerosol hair sprays, etc.," according to Mr. Watson.

Aerosol marketing, he pointed out is "dominated by companies interested in selling a product at a price rather than building a franchise."

An experimental formulation for aerosol dispensers introduced by Pennsalt Chemicals Corp. to handle the new plant growth stimulant gibberellin, was demonstrated during the meeting. A plastic coated three-ounce glass bottle with a metered valve which provides a measured dosage with each release of the valve was sampled by Pennsalt. The contents of the dispenser will yield in excess of 500 applications, according to Pennsalt.

Components of the aerosol were supplied by Wheaton Glass Co., Valve Corporation of America. Pennsalt ("Isotron" propellant) and Merck & Co. ("Gibrel," its trade name for the active ingredient, gibberellin acid).

The effects of gibberellin even in small doses of relatively mild solution are often dramatic. Following spray applications of the chemical many plants will double or triple their growth rates and total growth. Others change their growth forms. Only a few plants are unaffected by it. Budding, flowering, and seeding of some plants is accelerated by gibberellin and increased yields of seed have been reported, Pennsalt says.

Letters

(*From Page 39*)

Norske Sapefabrikkers
Landsforening
Klingenberggaten 7,
Oslo, Norway

We are glad to have Norway's soap and detergent consumption figures which we will gladly include in our next list. Our thanks to Dr. Sethne for taking the trouble to write and give us the information. Ed.

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Chemical Exposition Dates

Plans for the 43rd annual National Chemical Industries Exposition, to be held at the New York Coliseum, Dec. 2-6, were announced recently by E. K. Stevens, president of the International Exposition Co. Some 500 exhibitors are expected to occupy all four floors of the Coliseum to display chemical products, raw materials, process and laboratory equipment and supplies. This is the first time in six years the show will be held in New York.

★

New Great Lakes Line

Addition of 21 products to its line of chemical solvents was announced recently by Great Lakes Solvents, Inc., Chicago. According to Lewis H. Dehmlow, president, the new line includes products of Olin Mathieson Chemical Corp., Baltimore, for which Great Lakes has been appointed distributor in the Chicago area.

★

Permachem Names Three

Permachem Corp., West Palm Beach, Fla., recently announced the appointments of Frank W. Studstill and W. D. Whitehead as executive vice-president and director of sales and advertising, respectively. At the same time, it was reported that John P. Leach had been named a vice-president. Permachem markets anti-bacteria and fungicide products.

Hand Cleaners

(*From Page* 46)

a general trend in the industrial skin cleaning business toward products of cosmetic quality and the waterless cleaners of the future will follow this course. A few of them are already there. It is likely that emphasis will be placed on the use of milder solvents, coupled with safe syndets and other complexing agents to aid in soil removal. Special products, safe but effective on certain hard-to-remove soils such as lacquers and epoxy resins, are needed. A variety of resins offering advantages in removing special soils and inducing rapid pH restitution time is being studied. Introduction of agents to increase thixotropy in these products is receiving attention. Products with bacteriostats are being offered.

In this connection it should be mentioned that although the newer soap-compatible bacteriostats are substantive and work well under conditions of a soap and water wash, we know of nothing yet published indicating that they are effective in the mode of washing that occurs with a waterless hand cleaner.

In conclusion, I believe we can safely say that waterless hand cleaners are filling a real need. Some of the products on the market are even preferred to conventional soap and water cleaners by industrial workers. Their use prevents workers' tendency to dip hands in the raw solvent bucket. They make cleaniiness easier and are economical. They save on washrooms and plumbing, and the savings from their use are considerable when distance to the washroom is a factor.

A review of their history in industry points up definite improvement in acceptance. In the beginning, there was a great reluctance on the part of medical and safety directors to accept these cleaners. Today, with the great improvement in quality of the better products, as substantiated by the report of Birmingham and Perone, the use of many millions of gallons during recent years is evidence that the better products are safe and offer many benefits.

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Insect Repellent

(*From Page* 99)

more effective than the other repellents at low concentrations against *Anopheles quadrimaculatus* Say. Against *Mansonia perturbans* (Wlkr.), *o*-ethoxy-*N*,*N*-diethylbenzamide was best at low concentrations, but at full strength all the repellents afforded complete protection throughout the short period in the evening when this species was active. Diethyltoluamide and one mixture containing it were the most effective against *Stomoxys calcitrans* (L.) and *Chrysops atlantica* (Pech.). Diethyltoluamide was the most effective against *Culicoides canithorax* (Hoff.).

As clothing treatments diethyltoluamide and mixtures containing it were more effective than the standard M-1960 against *aegypti*, about equal against *taeniorhynchus*, more effective against *Xenopsylla cheopis* (Rothsch.), and less effective against *Amblyomma americanum* (L.). Against *Trombicula splendens* (Ewing) diethyltoluamide and some mixtures containing it were highly effective as fresh treatments, and were more resistant than M-1960 to aging, but less resistant to rinsing.

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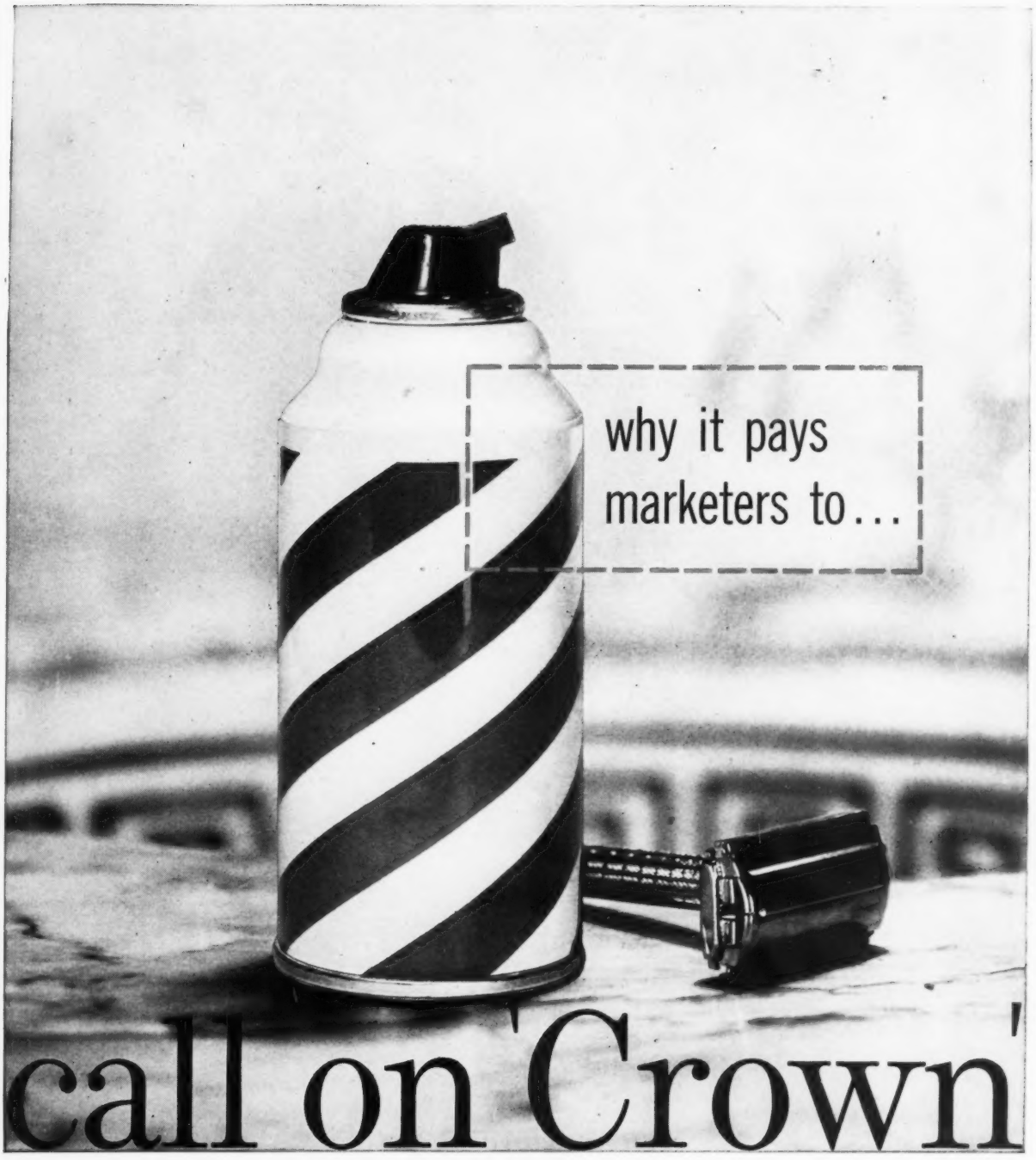
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Polyethylene "squeeze bottles" and "cans," such as one shown, are finding a growing number of applications in the chemical specialties field. Total number of packages of this type sold last year ran around 350 million. "Can" illustrated for dog and cat flea killer of Miller Chemical & Fertilizer Co., Baltimore, is by Bradley Container Corp., a subsidiary of American Can Co. See article on "Squeeze Bottles," page 115.

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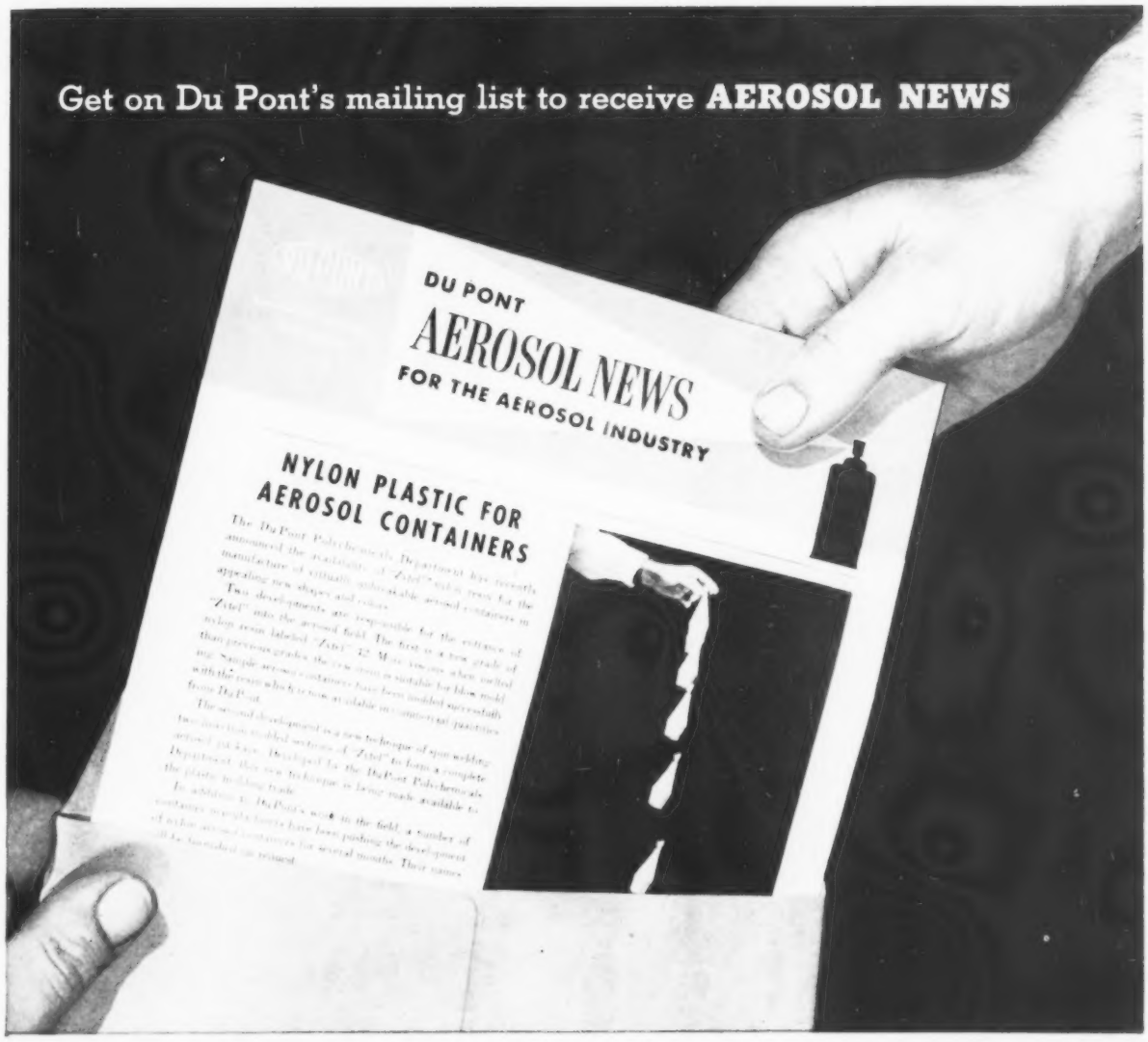
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SQUEEZE BOTTLES—

Take on new importance in detergent, cosmetic and chemical specialties fields as output zooms to 350 million units a year

PLASTIC squeeze bottles first made their appearance on the American market ten years ago. Authorities seem to agree that the first successful product put out in a squeeze bottle was "Stopette" produced by Dr. Jules Montenier. It was an under-arm deodorant and is still going strong. One authority believes that a "puffer bottle" for talcum powder, put out by Alexandra de Markoff in the summer of 1947 was first to market and that "Stopette" followed later. Be that as it may, the instant success of Montenier and his daring venture into a brand-new field of packaging brought his product from the bottom of the sales ladder right up to the top. Within a matter of months, most important competitors in the body deodorant field rushed to adopt a similar package. This brought the squeeze bottle almost overnight into volume production, lower cost and opened up numerous applications which heretofore had been denied this new type plastic container.

But one year prior to the advent of the first squeeze-to-use bottle, in 1946 to be exact, the first unbreakable polyethylene bottle found commercial application. This was as a container for laboratory chemicals put out by the General Chemical Division of Allied Chemical & Dye. This first bottle manufactured by Plax Corporation was a conventional Boston round design and was used for acids and other corrosive chemicals. Shortly after this time what may have been the first *attempt* at marketing a squeeze bottle product was made and the date was 1946. The product was a hair spray marketed by Ray Lee. It was completely unsuccessful because the product was not suitable for a polyethylene bottle.

Polyethylene from which squeeze bottles, tubes, and other plastic containers are made is a white, translucent material of somewhat waxy appearance. Although its chemical structure is relatively simple, it is difficult to manufacture. It is produced by the polymerization of ethylene which is a gas derived from petroleum. That ethylene could be polymerized was known for many years, but it was not until 1933 that English chemists demonstrated that various useful polymers could be produced if the process were conducted under very high pressures and at elevated temperatures.

Because polyethylene is the easiest of the thermoplastics to mold or extrude in conventional equipment, it is adapted to mass-production techniques covering a wide range of plastic materials. It is molded at various temperatures ranging all the way from 250 F. up to 500 F. It combines flexibility with toughness and retains these properties even at temperatures down to 50 below zero F. It is unaffected by many highly active chemicals and can be dissolved only at higher temperatures in some aromatic and chlorinated hydrocarbons. From the beginning, it therefore appeared to be an ideal material from which to mass-produce strong, unbreakable containers for a long line of products, either squeeze-to-use or where compressibility is not a function of the package.

The versatility of polyethylene resin finds use of the material growing by leaps and bounds in directions other than plastic bottles. In the electrical field, food field, in flexible piping and in innumerable household products, it finds widening application. But its future in packaging, that is as molded containers, seems especially bright.

Today, something over *twenty billion* packages a year of all types, cans, cartons, bottles, tubes and the



Imco Container Corp. photo

like, are used to market chemical specialties, detergents, soaps and cosmetics. Of this total, approximately eight billion are cans and glass bottles competitive in many instances with plastic bottles. This includes aerosols which represent about 1½ per cent of the total. If food applications of plastic containers are considered in addition —and they are especially adaptable for foods because of absence of taste, odor or toxicity—it is obvious that thus far the surface of the package market for plastic bottles, tubes and "cans" has not been scratched. Although today, they comprise only a very minor part of the over-all container market for chemical specialties, detergents and cosmetics, their producers are planning on a tremendous future potential.

As to the current size of the market for polyethylene bottles, cans and tubes, this is estimated variously all the way from 200,000,000 units up to 450,000,000 units for 1957.

Estimates were received from seven manufacturers of both polyethylene resin and finished containers. Because of the newness of the package and the rapid development of the market, accurate figures are difficult to obtain. It is estimated that sales jumped 25 per cent in 1955 and went up 30 per cent in 1956. For 1956, the value of polyethylene bottles produced was estimated at 25 to 30 million dollars. Taking all the estimates and discounting some factors, a figure of 350,000,000 units for 1957 might hit close to the present rate of production. Of this total, probably 60 per cent are squeeze-to-use containers, the balance regular pour bottles.

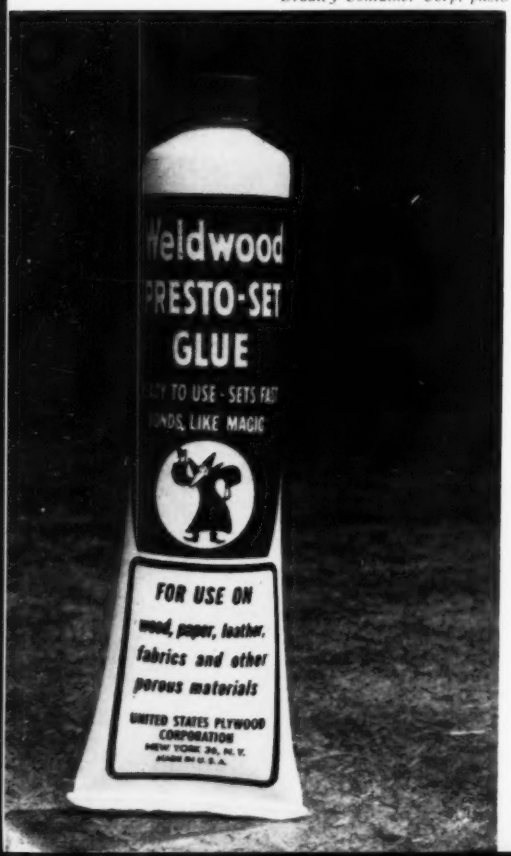
The list of products packaged in polyethylene containers today is a long one and rapidly becoming longer as permeability and other problems are being licked. The list includes a wide range of chemical specialty, cosmetic and drug products such as face and cold cream, liquid face cleaners, skin freshener, sunburn creams or liquids, hair tints and rinses, hair tonics and dressings, cream or liquid shampoos, wave set lotions, nose drops, hand creams or lotions, medicinal salves, tooth pastes, deodorants, surgical and liquid soaps, toilet waters, battery acid, laboratory chemicals, polishes, glass cleaners, liquid detergents, belt dressings and cements, and a host of others. Food products are not considered here.



Photo by Plax Corp.

As a competitive product to glass and metal containers, polyethylene packages have both advantages and disadvantages. Because glass breakage is costly in more ways than one, the unbreakability of polyethylene is one of its principal advantages. Loss in glass breakage is not only the cost of the packages broken, but the

Bradley Container Corp. photo



Plax Corp. photo



damage done by spilled contents on other packages, shipping cases, etc. Because metal containers are prone to corrode, the resistance to corrosion of polyethylene is another of its advantages. Because of its light shipping weight, probably one-sixth that of glass, there is a considerable saving in freight, packing and handling to the credit of polyethylene.

At the moment, the disadvantages of polyethylene are probably more numerous than advantages, although possibly not as important. The permeability of polyethylene to gases and vapors places it at a disadvantage compared with metal and glass. Loss of perfume by products packed in polyethylene is quite well known. Cost is another factor which puts polyethylene at a disadvantage. A polyethylene bottle or can today averages about double the cost of metal or glass of comparable size and design. In 1949, however, figures show that polyethylene packages cost five times as much as comparable glass containers. Since 1945, the cost of polyethylene resin to the bottle blower has declined close to 50 per cent. The long-range trend is downward.



Plax Corp. photo

Bradley Container Corp. photo



The subject of relative polyethylene container costs is in fact a study in itself. More on this will have to be covered at a later date. In passing, however, one producer of polyethylene "cans" for detergent use points out that cost has been cut to where it is only 15-20 per cent over metal can costs. In tubes, polyethylene is 5-10 per cent under lead, lined polyethylene tubes are equal in cost to aluminum and considerably cheaper than tin. The cost trend in all polyethylene containers is downward.

The problem of permeability of polyethylene bottles is one which is being solved from two different angles. First, internal coatings are being used with greater success to prevent loss of perfumes. Such plastics as polyvinyl alcohol, polyvinylidine chloride (Saran) and others are being used for this purpose. Other new coatings are reported in the offing. Another solution of permeability seems to be the use of linear polyethylenes which give a slightly more rigid container which holds its contents better.

Before the advent of polyethylene, plastic bottles were made for some years, but only on a limited scale. Plax Corporation was organized in 1935 and was the first producer of plastic bottles. From 1935 to 1945, Plax, a wholly owned subsidiary of the Hartford Empire Co., had only minor success as a plastic container manufacturer. Its bottle sales averaged only $20,000 yearly and it lost money on its bottle operations for ten years prior to the introduction of polyethylene resin.

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A du Pont photo

turing Company of Hartford, Conn., and owner of many patents covering automatic glass blowing, had purchased the Ferngreen Patents, Nos. 2,128,239 and 2,175,053 and the Kopitke Patent, No. 2,349,177 for its Plax subsidiary. The original Ferngreen Patent had been filed in February, 1933 and issued in 1938. It was purchased by Emhart for Plax in 1935 in application form. It was alleged infringement of these patents which was the basis of subsequent legal action in which Plax sued the old Elmer E. Mills Corp. Plax won the original suit, but upon appeal, the patent was held valid, but not infringed by Mills. The litigation was not completed until early 1953. The original patent expired in 1955. The Mills Corporation has since been taken over by Continental Can and is today a substantial producer of polyethylene bottles.

When squeeze bottles were first marketed, they were almost wholly in the gadget, gimmick or novelty state. They were strictly a "trick" container with little thought of practical usage. Then, their squeeze characteristics in dispensing body deodorants, hand lotions, sunburn cream, talc, drugs and the like brought this functional characteristic to the front and opened up numerous new markets. Now, the polyethylene container people are confident that their products have reached the "carrying" stage where they are in a position to compete nose-to-nose with metal and glass, and where the squeezable function is not a factor. They point to the latest thing in battery acid bottles which they state can equal glass in price and can be delivered at destination at a lower cost than glass because of reduced weight.

That permeability of polyethylene has been its greatest drawback seems quite evident. Taking one thousand products at random, products which can be packed in glass or metal, finds about one-third of them packagable in polyethylene without drawbacks. About one-third are in the questionable category, that is by lining the polyethylene container or using a polyethylene of greater density, they may become packagable. The remaining one-third of all products shows that they are primarily unsuited for packaging in polyethylene, chiefly on account of permeability or attack on the container. But by lining the package, most of the products in the two-thirds packagable category are suitable for packaging in polyethylene. Hence, the current expansion in the output of lined

(*Turn to Page* 192)



13 gallon Plax Corp. carboy

Imco Container Corp. photo.



Experience

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STOCK DESIGNS



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When you drop a packaging problem in our lap, the end result is more than a glass container. It is an *idea* . . . born of restless imagination, shaped by skilled hands, backed by years of sound experience. Our creative staff gives you a selling package that packs well, ships well and pushes your product on the shelf. For a successful solution to your design problem, contact MARYLAND GLASS CORP., 2147-53 Wicomico St., Baltimore 30, Md.

PACK TO ATTRACT IN

Maryland Glass

BLUE OR FLINT JARS AND BOTTLES

Chemicals No. 1 Steel Container User

THE chemical industry is rapidly becoming the nation's number one user of steel shipping containers, according to a report issued last month by the Steel Shipping Container Institute, Inc., New York. In 1956, the industry used over 30 million units, or more than one-quarter of the steel containers produced, and accounted for about 40 per cent of steel drum use and 20 per cent of steel pail consumption. Correspondingly, the chemical industry's total container use increased 340 per cent since 1940, while heavy and light drum use rose 81.3 and 137 per cent, respectively, since 1917-18.

According to the report, the use of improved linings on interior drum surfaces is the major factor in the increased use of steel drums for shipment of chemical products.

The report also reveals that prices of steel drums and pails have increased 133 and 122 per cent, respectively, since 1940, whereas petroleum products have risen 141 per cent and steel wages 217 per cent, in the same period. Total container production has increased 115 per cent since 1940, as compared with product increases of 71 per cent for finished steel, 57 per cent for passenger cars, and an overall increase of 113 per cent for industrial production.

★

Hazel-Atlas Appointments

L. L. Green has been appointed control officer of Hazel-Atlas Glass Division of Continental Can Co., Wheeling, W. Va., it was announced recently by H. G. Lewis, division vice-president. Mr. Green previously had been treasurer and controller of White Cap Co., Chicago. Also announced were appointments of J. H. Kaylor as manager of manufacturing and John S. Raleigh as manager of sales and production planning. Both men will headquarter in Wheeling. Previously, Mr. Kaylor had been factories manager and Mr. Raleigh was engaged in sales production planning work in the division's New York office.

★

New Braun Catalog

A new 103-page, paper bound catalog describing its complete line of glass and plastic containers and closures, was published recently by W. Braun Co., Chicago. All containers are listed according to size in a special 60-page display section. Included in the listing are specifications and product illustrations. The booklet also contains sections on ceramic decorating, metal caps, plastic caps, plastic moulding processes, and a glossary of trade terms and conversion factors. Copies of the catalog may be obtained from the company, 300 North Canal St., Chicago 6.

★

New Polyethylene Jars

A new line of molded polyethylene jars designed with extra heavy walls, was introduced recently by American Agile Corp., Maple Heights, O. Available in either linear or branch polyethylene and in one and two quart and one gallon capacities, the jars feature an interlocking cover design. They are said to be leakproof, moisture retarding, non-permeable, rigid and are reinforced around the bottom chime for impact resistance. Additional information may be obtained from the company, P. O. Box 168, Bedford, O.

★

Dow "Styron" Brochure

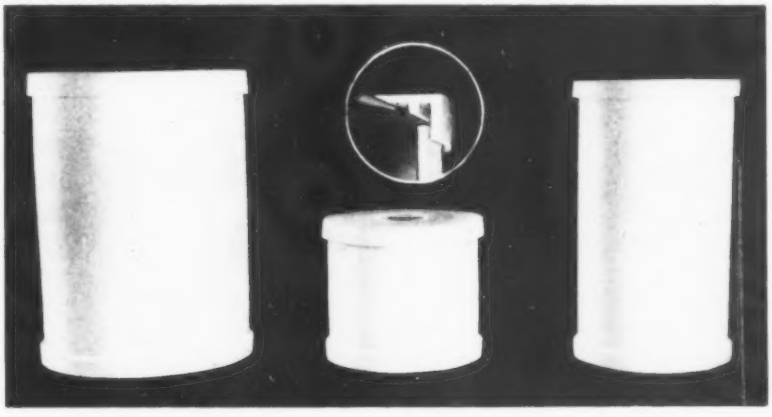
Dow Chemical Co., Midland, Mich., recently issued a 24-page supplement to its "A Catalog of Packages," published in 1955. The brochure provides data on containers molded from Dow's "Styron" plastic, which have been made available in the past two years. Also included is an illustration of each package, plus details as to its size, color, type of cover, suggested uses and name and address of the manufacturer. Copies of the supplement may be obtained from the company's plastic sales department.

★

New Carbide Laboratory

Plans for construction of a new technical service laboratory on a 280 acre site near Tarrytown, N. Y., were announced recently by Union Carbide Chemicals Co., New York. The new laboratory will include facilities to serve the aerosol, surface coatings, automotive and household specialties industries. According to D. B. Benedict, Carbide president, the new building will contain 63 individual laboratory units with complete analytical facilities for tracer chemistry and a 200-seat auditorium which will be used for seminars and technical meetings.

New line of molded polyethylene (linear or branched) jars designed with extra heavy walls and announced recently by American Agile Corp., Maple Heights, O.





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genetron 12/114A MIXES
genetron 142B MONOCHLORODIFLUOROETHANE
genetron 142B/114A MIXES
genetron 113 TRICHLOROTRIFLUOROETHANE
genetron 22 MONOCHLORODIFLUOROMETHANE
genetron 152A DIFLUOROETHANE (1-1)
SPECIAL PROPELLANTS

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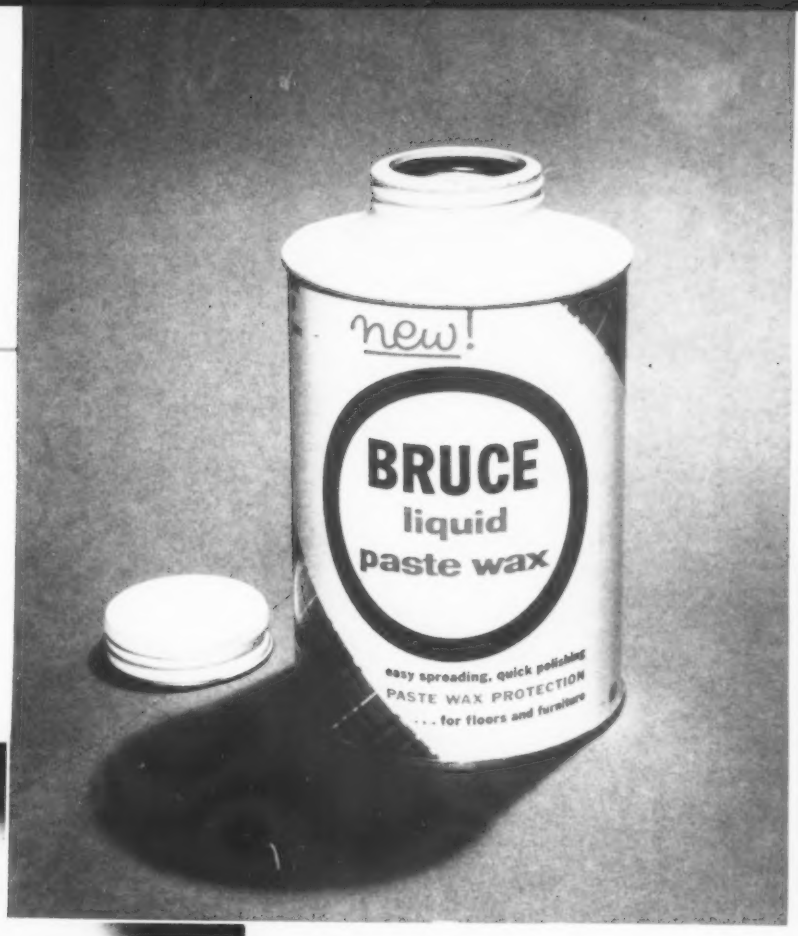
General Chemical has one of the most complete aerosol development laboratories in the country. Without cost or obligation, we will be glad to help you develop the right propellants and formulations for your product and container. Send for free fact-packed technical manual and market data book... "How To Push Up Profits With Aerosols."

Allied Chemical

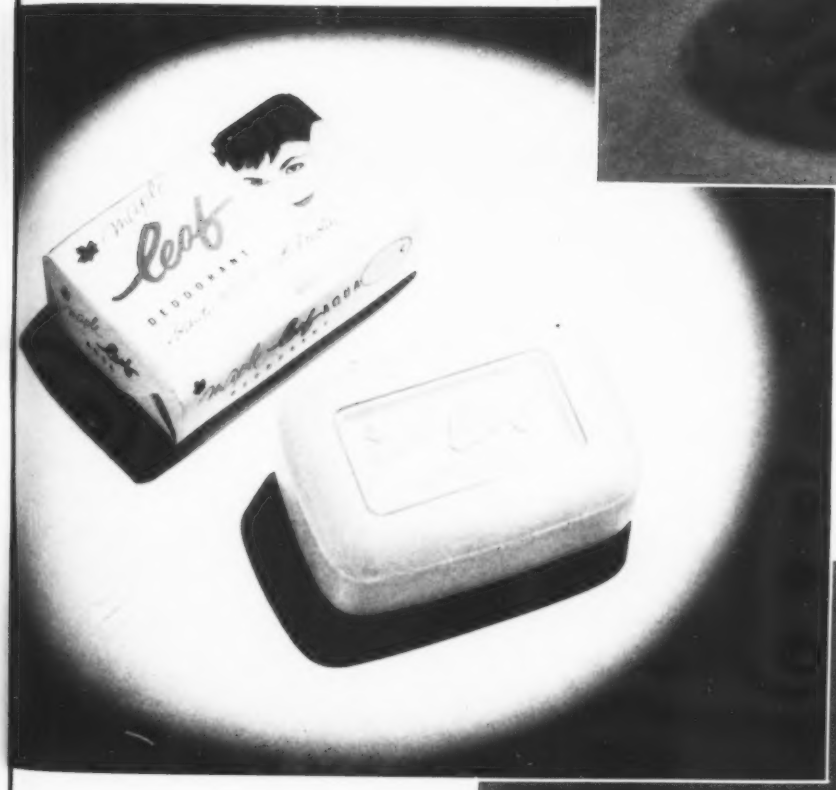
Write to "Genetron" Department

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

What's New?



A new liquid paste wax, announced last month by E. L. Bruce Co., Memphis, Tenn., is designed for use on wood, linoleum and vinyl surfaces. Product is packaged in 22-ounce, non drip containers by American Can Co., New York. Containers feature lithographed label and screw top and are packed 12 to a carton. Called "Bruce Liquid Paste Wax," product will be marketed nationally through lumber yards as well as grocery and department stores.



"Maple Leaf," a new deodorant bath soap in four colors was introduced in Canada last month by The C-P Co., a division of Canada Packers, Ltd., Toronto. Product comes in pink, aqua, yellow and white and is packaged in a paper wrapper carrying the illustration of a model holding a bath towel which matches color of soap bar. "Maple Leaf" contains a new deodorizing ingredient called "C. P. 27" and is said to be high in lanolin content.



New "Kwik-Kill," fly bait, manufactured by Alco Chemical Co., Artesia, Calif., features formulation containing DDVP and "Diazinon," made by Geigy Agricultural Chemicals, Ardsley, N. Y. Product is recommended for industrial, institutional and household use and is said to be effective in controlling ants and roaches, as well as flies. "Kwik-Kill" comes in eight-ounce and one and seven-pound sift-top containers.



A new floor wax, "Coronet Blue Dot," announced recently by East Coast Soap Corp., Brooklyn, N. Y., is designed for use on floors of rubber, vinyl, linoleum and wood. Product is said to be slip and scuff resistant and is also claimed to provide protection against dirt and water spotting. "Coronet Blue Dot" is packaged in one gallon screw-top container.

Chemical Products Co., Omaha, recently announced a new anti-static cleaner for making shiny surfaces brilliant and resistant to finger marks and dust. Trade-named "Brillianize," product is designed for cleaning and protecting mirrors, plexiglas, plastic and stainless steel. It is packaged in eight-ounce polyethylene squeeze bottle and one-gallon bottle. Squeeze bottle has reusable top.



A new ten and one-half ounce, easy to grip glass bottle, was adopted recently by Hewitt Soap Co., Dayton, O., for its "Ezy-Day" liquid detergent. Package features moisture-resistant ceramic label in two colors and a bright red molded plastic closure. Bottle, label and closure are by Owens-Illinois Glass Co., Toledo, O.





New squeeze-duster container adopted recently by Boyle-Midway, Inc., New York, for its "Black Flag" insecticide and flea, tick and louse powder. The latter product comes in three-ounce bottle, while the insecticide is packaged in a 2½ ounce container. Both are packed 12 to a carton and retail for 50 cents a piece. Products will also continue to be marketed in familiar shaker cans. New polyethylene cans with metal ends are by Bradley Container Corp., Maynard, Mass., a division of American Can Co.

A new waterless hand cleaner, "Dot-So," announced last month by Chemical Enterprises, Chicago, is designed to remove ink, grease, grime, paint and glue from the skin. It is applied without water and is said to loosen the stain so that it can be removed with a paper towel. It may also be washed off with water. Product is available in five-ounce tube, one-pound jar and one-quart and one-gallon can, and is marketed by Dot-So Sales, Chicago.







Fine Organics, Inc., New York, recently introduced a new floor and wall cleaner called "Finorclean." Product is said to be free of abrasives, acids and solvents, and is odorless, non-flammable and non-corrosive.

"Gibbin," acts as a plant growth stimulant when applied to many types of flowers, trees and grasses. Packaged in a 12-ounce aerosol container, product contains gibberellic acids and is manufactured and filled by Gard Industries, Inc., Wilmette, Ill. Container is by Crown Cork & Seal, Inc., Can Division, Baltimore.



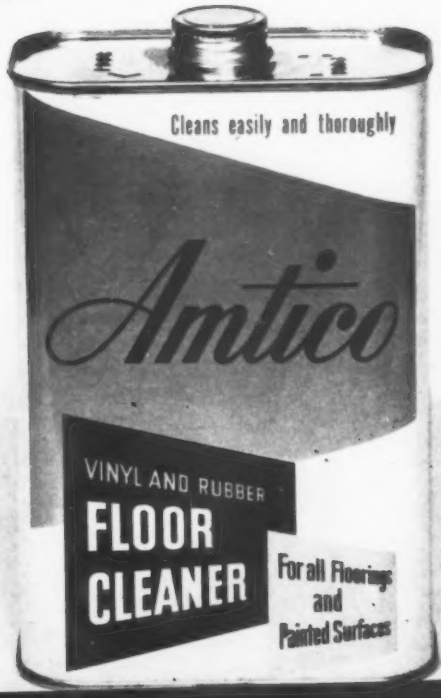


"Lastic Life," a new cold water soap designed for laundering lightweight elastic garments, was introduced recently by Lastic Life Co., New York. Product, which is said to remove stains and prevent yellowing, comes in eight-ounce polyethylene squeeze bottle by Royal Manufacturing Co., Prescott, Ariz. "Lastic Life" is marketed in department stores and specialty shops and retails for $1.50.

Mira-Glo Corp., Champaign, Ill., recently announced a new glass cleaner for cleaning windows, mirrors, enamels and bright metals. Trade named "Mira-Glo," the product is packaged in aerosol container made by Crown Cork & Seal, Inc., Baltimore. It will be marketed through sanitary supply jobbers.



New quart container recently adopted by American Biltrite Rubber Co., Trenton, N. J., for its "Amtico" floor cleaner. Product, which was introduced last fall, is designed for use on all types of floors and painted surfaces. "Amtico" also is available in one gallon cans.



Bracon . . . SQUEEZE-TO-USE PACKAGING



Success for Sunsters

Here they are! The cream of the 'tan creams . . . the most sensitive and scientific formulae for successful sunning. Note, all are packaged in colorful pliable polyethylene for safety and simple convenience.

Why have these leaders of famous brand names picked BRACON squeeze-to-use tubes and bottles? Because they have natural consumer appeal *without* premium price . . . easy-going displayability . . . and striking color and design effects. Many have a special interior coating to retain product freshness and essential oils.

Practical everywhere, for BRACON tubes never roll up . . . dent . . . crack or tear. Squeeze anywhere for just the right amount of product . . . package always stays neat and clean.

BRACON squeeze-to-use tubes, bottles and cans are partners with all types of liquids, creams and powders in all basic markets. Let us show you how they can serve your products.



BRADLEY CONTAINER CORPORATION

A SUBSIDIARY OF AMERICAN CAN COMPANY

Maynard, Mass. — *New York, Chicago, Los Angeles, Toronto*

New "Rolaprinter" Folder

A new four-page folder describing it new "Rolaprinter" coding and imprinting attachment for wrapping and bundling machines, was issued recently by Adolph Gottscho, Inc., Hillside 5, N. J. Fully illustrated, the bulletin gives suggested applications and specifications of the unit. Copies of the folder may be obtained from the company.

★

New du Pont Booklet

A new booklet describing the applications of its "Alathon" polyethylene resins in containers and closures, was issued recently by E. I. du Pont de Nemours & Co., Wilmington, Del. The eight-page, two-color bulletin is fully illustrated and also lists the product's outstanding properties and basic characteristics. Copies of the booklet may be obtained from the company.

★

O-I Appoints Miller

Appointment of Robert F. Miller as assistant sales manager of drug and chemical industries for the glass container division of Owens-Illinois Glass Co., Toledo, was announced recently by W. M. Robertson, sales manager. With O-I since 1941, Mr. Miller held sales posts in the Boston and New York branch offices prior to his appointment as manager of prescription ware and pharmaceutical and proprietary divisions.

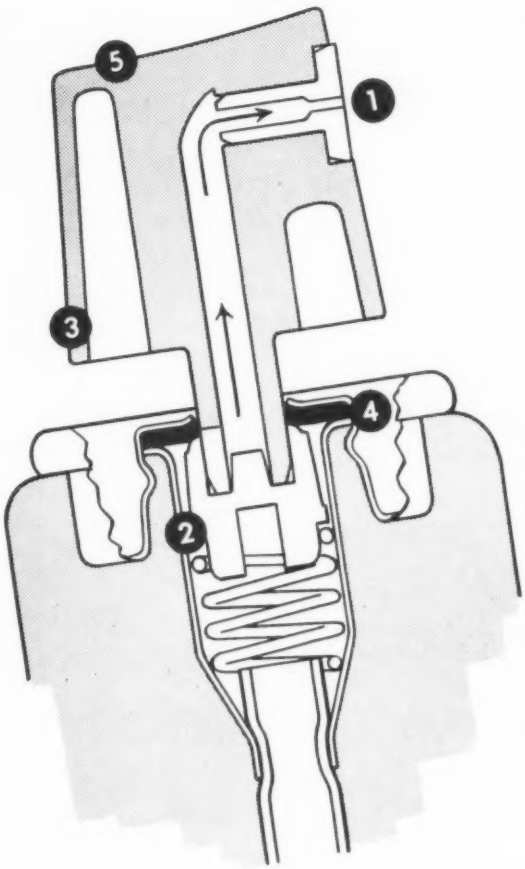
★

Riegel Buys Amos Plant

Riegel Paper Corp., New York, has purchased the plant and equipment of Amos Packaging Division of Amos-Thompson Corp., Edinburg, Ind. The sale was consummated through transfer of 34,000 shares of Riegel common stock. J. L. Riegel, board chairman, said that the acquisition will improve service and expedite shipment of Riegel's packaging materials to the midwest. Allan Stone, formerly Amos general manager, will continue as manager of the Edinburg plant.

Newman-Green Aerosol Valve Design Assures Smooth Manufacturing— Happy Aerosol Customers

ELIMINATES PARTS THAT CLOG OR STICK, MAKES VALVE OPERATION TROUBLE FREE



The Newman-Green valve design is simplified through creative engineering. Here's how:

1. *orifice of pattern insert is cored, not drilled, which assures uniformity from one valve to next,*
2. *small, inaccessible metering orifices are completely eliminated,*
3. *patterns can be changed quickly by switching spray heads only,*
4. *valve assembly can be used on any type of pressurized products,*
5. *large curved finger surface operates easily, takes less effort to spray.*

All these design advantages, and the fact that Newman-Green valves work effectively in metal, glass or plastic containers, give you these major reasons for using Newman-Green valves.

AEROSOL LABORATORIES throughout the country have approved the Newman-Green valve design. Tough end uses like paint sprays operate best with a Newman-Green valve.

MANUFACTURING runs smoothly with Newman-Green valves going on aerosol containers. Simplicity of design assures smooth valve operation, eliminates production stops.

SALES GROW when you eliminate the sales problem of dissatisfied customers returning containers that do not work due to faulty valve operation. Newman-Green aerosol valves give dependable service all the time.

PROFITS INCREASE with a Newman-Green valve that has laboratory approval, goes smoothly through your assembly operation and will help assure customer acceptance for your aerosol products.

Remember, Newman-Green valves are adaptable for a wide range of aerosol products including paints, personal products, insecticides, hair lacquers, room deodorants, perfumes, etc. Send in the coupon below for free information.



Here are three typical spray heads, all interchangeable in seconds. Shown are wide, mist and fan spray patterns.

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Valve Application _____

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". . . a carton or carload, **Vulcan** ships fast."

". . . size is no problem, **Vulcan** makes 1 through 15 gallons."

". . . and **HiBake** interior linings for product protection."

". . . **Vulcan's** prompt deliveries cut warehousing costs."



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Phone Directories

New Canco Plant

American Can Co., New York, last month opened a new plant in Tampa, Fla., for mass producing metal cans directly from coils of tinplate. According to William C. Stolk, president, the unit is the first of its kind in the can-making industry. Other similar installations will be opened by Canco at various locations this year.



William C. Stolk

Mr. Stolk said his company was installing coil processing facilities as a means of counteracting continued rises in the price of steel by eliminating intermediate processing steps previously carried out by the steel mills. The coil lines automatically inspect, cut and sort sheets of tinplate and steelplate from coils weighing up to 15,000 pounds at speeds reaching 600 feet per minute.

The next step in Canco's program will be to incorporate equipment for chemically treating steelplate into its coil lines, Mr. Stolk stated. He added that such a unit will be installed at the company's new Hammond, Ind., coil cutting plant late this summer, and possibly at the Tampa unit at a later date.

Mr. Stolk also said that research is advancing on the incorporation of enameling units into the company's coil lines. This accomplished, he declared, would enable Canco to run the inspected, treated and enameled plate directly off the coils into the can making machine without putting it through the sheeting operation.

"In fact," he stated, "we have a pilot line incorporating most of the major elements of such an operation under construction right now."

★

Felio Named CRF Pres.

Earl N. Felio, treasurer of Colgate-Palmolive Co., New York, has been re-elected president of Credit Research Foundation, Inc., educational and research division of the National Association of Credit Men. Mr. Felio has been treasurer of Colgate since 1951 and has been with Colgate since 1924.

Polyethylene "squeeze-to-use" cans for the rapidly expanding liquid detergent field currently include 32, 22, 12 and eight fluid ounce sizes. Containers shown are by Bradley Container Corp., Maynard, Mass., subsidiary of American Can Co., New York. Metal end containers (code name 2ME) are produced exclusively by Bradley and feature captive cap, attached to pour spout.



Continental Names Piper

L. A. Piper has been named acting manager of the Syracuse sales office of the metal division of Continental Can Co., New York, it was announced recently by R. D. Heaviside, general manager of the northeastern district. Mr. Piper formerly had been assistant sales manager of the division's New York office. In his new post, he succeeds C. W. Smith, who has joined Continental's Hazel-Atlas Glass Division, Wheeling, W. Va.



L. A. Piper

★

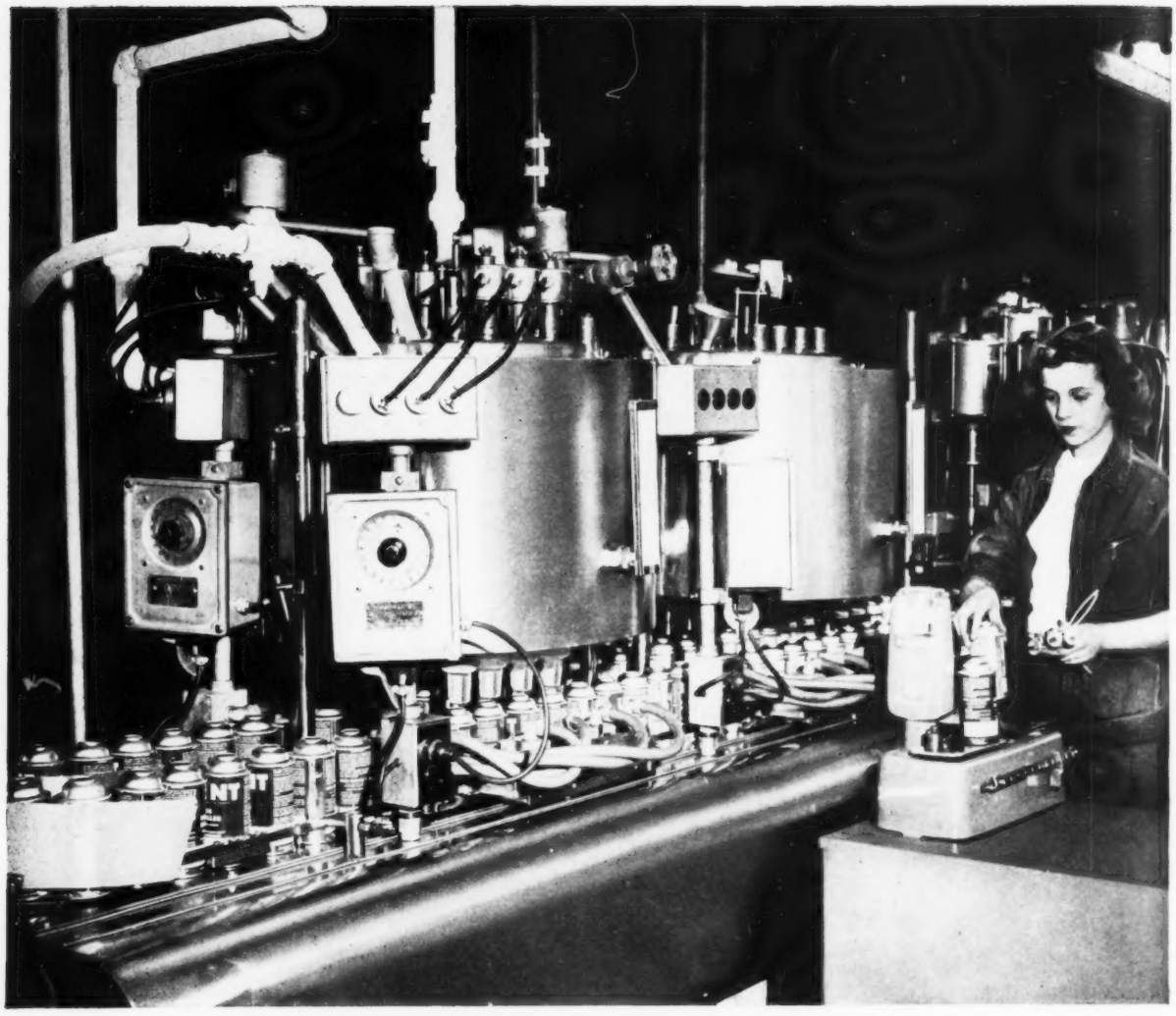
Charles M. Hesson Dies

Charles M. Hesson, 64, chief engineer of Chisholm Ryder Co. of Pennsylvania, Hanover, Pa., died April 18 after a long illness. Mr. Hesson was associated with the packaging industry for 40 years and was the holder of numerous patents on labeling machines and various container handling equipment. He was one of the founders of The New Way Canning Machine Co., and joined Chisholm Ryder when it purchased New Way 13 years ago.

★

BIMS Golf Outing June 27

BIMS of Boston will hold its first golf outing of the season at the Weston Golf Club, Weston, Mass., June 27, it was announced recently. The organization also has scheduled golf outings for Aug. 13 at the Salem Country Club, Salem, Mass., and Sept. 10 at Nashua Country Club, Nashua, N. H.



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No waste, but full measure for your customers. Neatness and performance of package is checked by our rigid quality control system. Establish "your own" filling department with us now. Write, 'phone or wire . . .

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NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of $25 must accompany notice of opposition.

Naco — This for insecticides. Filed Jan. 19, 1956 by W. R. Grace & Co., New York. Claims use since 1945.

N-Tomic Mist — This for insecticides. Filed Mar. 2, 1956 by Robert Johnsen, doing business as N-Tomic Products, West Orange, N. J. Claims use since Jan. 13, 1956.

Clout — This for weed killer. Filed Sept. 10, 1956 by O. M. Scott and Sons Co., Marysville, O. Claims use since July, 1956.

Bacco-Bed — This for insecticide, fungicide and herbicide. Filed Dec. 11, 1956 by Daly-Herring Co., Kinston, N. C. Claims use since Apr. 21, 1956.

Murvesco—This for insecticide, fungicide and weed killer. Filed Dec. 12, 1956 by The Murphy Chemical Co., Ltd., Wheathampstead, England. Obtained British patent Feb. 4, 1952.

Tes-Ted—This for hand soap, soap powder, all-purpose cleaner and wax remover. Filed Apr. 27, 1955 by Tesco Chemicals, Inc., Atlanta, Ga. Claims use since about 1942.

Takamine—This for dry-cleaning soap compounds. Filed Aug. 6, 1956 by Miles Laboratories, Inc., Elkhart, Ind. Claims use since Mar. 4, 1932.

Johnson — This for shampoo. Filed Nov. 5, 1956 by Johnson & Johnson, New Brunswick, N. J. Claims use since 1914.

7 — This for liquid and paste waxes and polishes. Filed Aug. 28, 1956 by E. I. du Pont de Nemours & Co., Wilmington, Del. Claims use since about Aug. 22, 1955.

Acto-Vate — This for water softeners. Filed Feb. 29, 1956 by E. F. Drew & Co., New York. Claims use since Feb. 15, 1955.

Skotch Kooler — This for insecticide. Filed Apr. 9, 1956 by The Hamilton Metal Products Co., Hamilton, O. Firm recently changed name to Hamilton Skotch Corp. Claims use since Mar. 8, 1956.

Master — This for insecticide. Filed June 8, 1956 by Stevens Industries, Inc., Dawson, Ga. Claims use since 1949.

Valay — This for moth killer and deodorizer. Filed June 15, 1956 by Esquire Chemical Co., Downers Grove, Ill. Claims use since Oct. 15, 1939.

De-Roacher — This for insecticides. Filed Aug. 16, 1956 by Quinn Drug and Chemical Co., Greenwood, Miss. Claims use since Oct. 17, 1947.

Spraedeo — This for industrial deodorant. Filed Sept. 12, 1956 by Tech Soap Manufacturing Co., Chicago. Claims use since on or about Aug. 14, 1956.

Pamak — This for fatty acids. Filed Sept. 17, 1956 by Hercules Powder Co., Wilmington, Del. Claims use since Aug. 28, 1956.

Isotron — This for aerosol propellants and fluorinated hydrocarbons. Filed Sept. 28, 1956 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since Nov. 22, 1955.

Panda — This for laundry detergent, disinfectant and deodorizer. Filed Dec. 8, 1955 by Standard Coffee Co., doing business as Consumer Products Co., New Orleans. Claims use since Jan. 2, 1954.

Express — This for liquid dishwashing detergent. Filed Oct. 12, 1956 by Economics Laboratory, Inc., St. Paul, Minn. Claims use since July 30, 1956.

Cosilbra—This for liquid metal cleaner. Filed Feb. 12, 1957 by Burke & Hancock, Orlando, Fla. Claims use since June 15, 1949.

Kitten—This for liquid cleaner and polish. Filed Sept. 20, 1956 by Metalglas Laboratories, Inc. Madison, Wis. Claims use since June 1, 1956.

Shine Time—This for shoe polish. Filed Nov. 21, 1956 by Samuel L. Worthington, Portola, Calif. Claims use since June 27, 1956.

Sparkleen — This for laundry bleach. Filed Jan. 31, 1955 by Paddock Chemical Co., Los Angeles. Claims use since Oct. 8, 1954.

Johnson's — This for laundry preparation for making fabrics water repellent. Filed Jan. 30, 1956 by S. C. Johnson & Son, Inc., Racine, Wis. Claims use since Sept. 16, 1942.

Sunrex — This for permanent type anti-freeze. Filed Aug. 2, 1956 by Erickson Petroleum Corp., Minneapolis. Claims use since Nov. 8, 1954.

Sun Zone—This for methanol-type anti-freeze. Filed Aug. 2, 1956 by Erickson Petroleum Corp., Minneapolis. Claims use since Nov. 8, 1954.

C-D-C—This for fire extinguishing preparation. Filed Aug. 6, 1956 by Ansul Chemical Co., Marinette, Wis. Claims use since Feb. 29, 1956.

Spiritine—This for disinfectant and deodorant. Filed Aug. 21, 1956 by Spiritine Chemical Co., Wilmington, Del. Claims use since 1900.

Gold Digger — This for skin cleansing lotion. Filed Jan. 13, 1956 by Kolmar Laboratories, Inc., Milwaukee. Claims use since Nov. 29, 1955.

Shavan — This for brushless, waterless shaving cream. Filed May 1, 1956 by Better Products Laboratories, Inc., Miami, Fla. Claims use since Mar. 1, 1956.

Wool-Nu — This for detergent for washing woolen fabrics. Filed Oct. 15, 1956 by Household Research Corp. of America, doing business as White Cross Home Products Co., Cambridge, Mass. Claims use since Aug. 10, 1956.

Formula KP — This for soap powder. Filed Mar. 4, 1955 by Bryant Chemical Corp., North Quincy, Mass. Claims use since about Jan. 10, 1955.

Ammosene — This for surface active agent for use in liquid detergent. Filed Jan. 25, 1956 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Sept. 22, 1955.

Myrex—This for industrial detergent. Filed Feb. 16, 1956 by Geo. J. Meyer Manufacturing Co., Cudahy, Wis. Claims use since Feb. 1, 1956.

Mar-O-Oil—This for shampoo. Filed Aug. 9, 1956 by Consolidated Royal Chemical Corp., Chicago. Claims use since Oct. 1, 1928.

Death Valley—This for all-purpose liquid cleaner. Filed Aug. 10, 1956 by Death Valley Specialties, Inc., doing business as Death Valley Specialties, Ventura, Calif. Claims use since Oct. 3, 1955.

Dippo Suds—This for synthetic detergent for industrial and household use. Filed Sept. 12, 1956 by Ultra Chemical Works, Inc., Paterson, N. J. Claims use since Sept. 30, 1951.

Fiber Fresh—This for textile cleaner. Filed Oct. 1, 1956 by Wade, Wenger and Associates, Inc., Chicago. Claims use since Dec. 28, 1955.

Lacq-A-Tak—This for shampoo. Filed Oct. 3, 1956 by Samuel Bonat & Bro., Inc., Paterson, N. J. Claims use since Sept. 4, 1956.

Addisons—This for metal and glass polish. Filed May 24, 1956 by Albert Irving Wigler, doing business as Wiglers Products Co., Newark, N. J. Claims use since Oct. 10, 1934.

Turco—This for metal cleaner and polish. Filed Oct. 1, 1956 by Turco Products, Inc., Los Angeles. Claims use since Apr. 29, 1955.

Did—This for combined cleaner and polish for automobiles and household use. Filed Oct. 5, 1956 by The First Silicone Corp., Chicago. Claims use since Feb. 1, 1956.

Faspray—This for aerosol plastic spray and paint remover. Filed Dec. 24, 1956 by The Sargent-Gerke Co., doing business as Faspray Aerosol Co., Indianapolis, Ind. Claims use since Dec. 4, 1956.

Lambco—This for paste wax for cement floors. Filed Feb. 18, 1957 by Lambert Corp., Houston, Tex. Claims use since Jan. 12, 1947.

Fresh-Pine—This for household cleaner and deodorizer. Filed Sept. 19, 1955 by Wilbert Products Co., New York. Claims use since October, 1953.

Tooth—This for wax remover. Filed Jan. 18, 1956 by The Curran Corp., Lawrence, Mass. Claims use since Nov. 18, 1955.

Keeps—This for washing agent for nylon, silk and rayon. Filed Mar. 27, 1956 by City Chemical Co., Chicago. Claims use since Oct. 14, 1944.

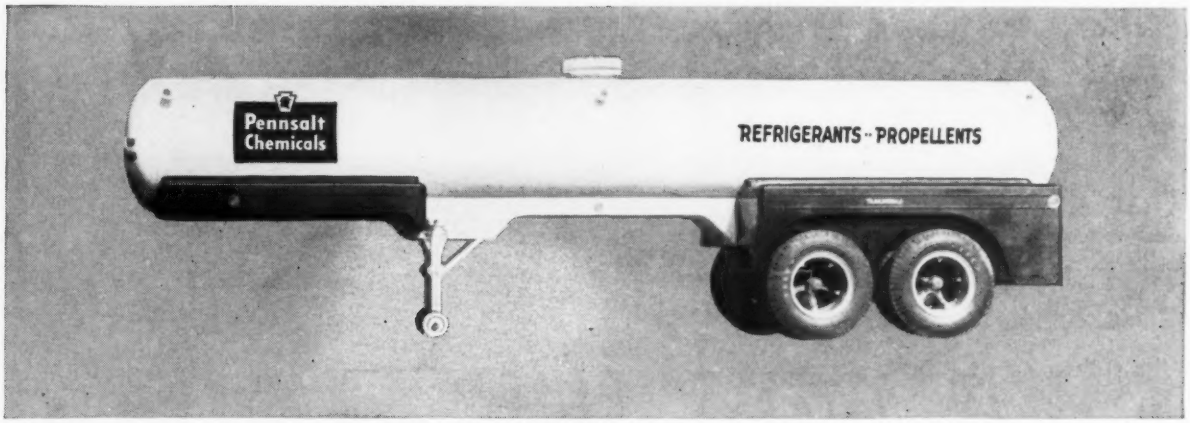
Aluma-Shine — This for metal cleaner. Filed May 21, 1956 by Aluma-Shine Products Co., Norwalk, Conn. Claims use since about Oct. 1, 1955.

Lino-life — This for household detergent. Filed May 28, 1956 by Economics Laboratory, Inc., St. Paul, Minn. Claims use since July 30, 1954.

Rainier—This for toilet soap. Filed Oct. 23, 1956 by Daniel J. Keefe, doing business as Rainier Soap Co., Milton, Mass. Claims use since 1906.

BUY WITH CONFIDENCE . . . USE WITH EASE

ISOTRON controlled-process propellents



With individualized aerosol customer service



ISOTRON* propellents are now available from Pennsalt's new, modern ISOTRON plant in Calvert City, Kentucky, and from a blending plant at Cornwells Heights, Pennsylvania.

Pennsalt rigidly controls ISOTRON production from raw materials to final packing. A pioneer in fluorine chemistry, Pennsalt offers you not only the finest quality fluorinated propellents but also individualized aerosol customer service to help you benefit most from the new ISOTRON line.

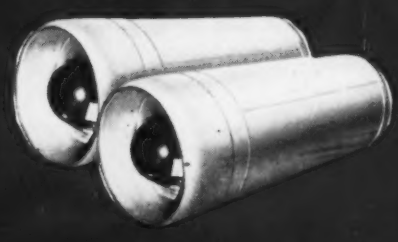
Learn how ISOTRON and Pennsalt service fit into your aerosol plans. Write Isotron Chemicals Dept. 493.

*ISOTRON is a trade-mark of Pennsalt Chemicals Corporation

ISOTRON THE KEY TO MODERN LIVING

Pennsalt Chemicals

PENNSALT CHEMICALS CORPORATION
3 PENN CENTER, PHILADELPHIA 2, PA.



Stalfort Sells Pa. Firm

It was announced last month that personnel of John C. Stalfort & Sons, Inc., and Stalfort Pressure-Pak, Inc., both Baltimore, connected with the ownership and management of Stalfort of Pa., Inc., have sold their stock holdings to Stalfort of Pa.

As a result of the change in ownership, the name of Stalfort of Pa. has become Thomasson of Pa., Inc. Thomasson will be headed by J. W. Bampton, who is also president of Krylon, Inc., Norristown aerosol marketer. Other officers are J. J. McElroy, Jr., treasurer; Thomas N. Hundman, Jr., secretary, and David R. Bagenstose, vice-president and general manager.



J. W. Bampton



Charles Beach

Mr. Bampton stated that the company's sales of aerosols, production facilities, development laboratories, and personnel have expanded substantially. The transition to Thomasson of Pa., Inc., has enabled a closer coordination of the company's activities and plans, according to Mr. Bampton.

Stalfort of Pa., Inc., established in 1955, handled the aerosol loading for Krylon, Inc., a pioneer in aerosol paints and finishes and a leading marketer of these products.

—★—

New Aerosol Catalog

The Can Division of Crown Cork & Seal, Inc., Philadelphia, recently announced publication of the third edition of its pressure packaging catalog in binder form. The multi-color, fully-illustrated booklet comes in two parts. Part one, which runs 15 pages, includes a list of almost 100 products which

Monogrammed aerosol shave lather "mugs" inspired by the old-fashioned shaving cup of yesteryear are being made up as sales promotion items by Aerosol Techniques, Inc., Bridgeport, Conn. Initialed in gold these "aero mugs" primarily are show pieces.





Now packaged as an aerosol is Carbide's repellent "6-12", Continental Can filled by Stalfort of Pa. Valve is by Precision.





IMITATED...BUT NEVER DUPLICATED IN PERFORMANCE–

THE *Precision Valve*

We, at Precision, are justifiably proud of the performance record that the Precision Valve has achieved in the hands of thousands of users.

Precision is today the largest manufacturer of Aerosol Valves. Largest because of our designing, engineering and manufacturing methods which have created a quality, economical product, that has proved itself in use. Over 500 Million Precision Valves offer proud testimony of our ability to create THE VALVE for your product.

Whatever your aerosol product does... It will do it better with a Precision Valve.

Why not call today... Our laboratory and engineering staffs are available to aid you with your valve requirements.

"Known throughout the World"

PRECISION

Precision Valve Corporation

700 NEPPERHAN AVENUE • YONKERS 3, NEW YORK



New line of institutional size aerosol products of B. T. Babbitt, Inc., New York, for sale exclusively through sanitary supply distributors. Included in the line are two insecticides and two room deodorants. The room deodorants, which contain glycol, come in mint and apple blossom odors. They contain 14 ounces of product. Fourteen ounces of a pyrethrins based insecticide and a 12 ounce DDT product are available.

may be packaged in aerosol containers, plus complete information on Crown's aerosol filling service, from selection of a suitable container to marketing the finished product.

Part two of the 8½ x 11 inch catalog is divided into six sections, which include technical information on "How Pressure Packaging Works," "The Two Ways to Package Under Pressure," "Basic Steps to Pressure Packaging Your Product," "Selecting Your Container," "Public Regulations Affecting Pressure Packaging," and the names of valve suppliers and contract loaders in the United States and 21 foreign countries. Copies of the booklet may be obtained from the company, 9300 Ashton Rd., Philadelphia 36.

★

Hulten in New Carbide Post

John R. Hulten has been named manager of fluorocarbon sales for Union Carbide Chemicals Co., New York, it was announced recently by John A. Field, vice-president. Mr. Hulten will be responsible for establishment of a staff to serve the aerosol propellant industry. He joined Carbide in 1941 and since that time has served as sales representative and district manager of the firm's Albany, N. Y., and Philadelphia offices. He was named central division manager in February, 1956.



John R. Hulten

★

Fire Destroys Aeropak Plant

Aeropak, Inc., Chicago aerosol firm, is back in operation following a spectacular fire, May 24, which destroyed its production facilities at 3005 W. 47th St. The fire did between $250,000 and $300,000 worth of damage.

Aeropak, which is affiliated with DeMert & Dougherty, a chemical supply firm, resumed production four days after the fire, according to a company announcement. The aerosol division will be relocated in new quarters some time this summer. Aeropak is presently operating at 4801 S. Richmond St.

DeMert & Dougherty's offices which were destroyed in the fire plans to occupy new general and executive offices. Location and other details are to be announced when negotiations are completed.





Two applications of new combination metered valve and container designed by Emerson Research, Inc., Bridgeport, Conn., are nasal spray, left, and oral dispensing unit. Metered valve dispenses exact dosages ranging from 50 mg. to three grams. Valve is adaptable for all aerosol containers including stainless steel, aluminum, glass, plastic and standard metal cans. Emson offers its engineering design facilities to develop containers using its metered valve.

Only Continental GIVES YOU AN EXCLUSIVE LINE OF SIX DOME-TOPPED AEROSOLS

WITH SALES OF AEROSOLS expected to hit 600,000,000 by 1960 (about twice 1956 production), you can see the immediate expansion that lies ahead for every aerosol user. Of all suppliers, Continental is best equipped to meet your growing demands, for two reasons. First, Continental offers the most complete line of aerosol sizes. Second, Continental has greatly increased aerosol production facilities. We're ready to deliver all the aerosols you need, any size, any time, anywhere, from plants across the U.S.

Whatever your product—insecticide or shaving cream, air freshener or hair lacquer—Continental aerosols are tailor-made for you, lithographed with your design by Continental craftsmen. Engineering and research services are also available, as well as introductions to valve suppliers and commercial fillers. You can fill all your container needs *with one order* to save on shipping and handling costs.



QUALITY Continental SERVICE

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

Cash in on the huge demand for AEROSOLS... call Continental TODAY!

Barr Names Heffron

William Heffron has been named chief chemist for the New York plant of G. Barr and Co., Chicago, custom aerosol loaders, it was announced late last month by Rud Saacke, plant manager. Mr. Heffron previously had been associated with Castor Oil Products Co., Yonkers, N. Y., where he was engaged in quality control and product development work.



William Heffron

★

Aerosol Press Meeting

A press conference dealing with aerosols for editorial people on women's magazines, press services, shelter publications and the women's pages of local newspapers was held at the Park Lane Hotel, New York, June 12. The filling of the billionth aerosol package was the occasion for the affair which was sponsored by the publicity committee of the Aerosol Division of Chemical Specialties Manufacturers Assn. G. M. Basford Co., New York advertising and public relations firm is conducting the aerosol publicity program.

The conference also featured a "live" demonstration of how aerosols are produced and a showing the Du Pont film on aerosols. Each editor received a gift package containing aerosol products from a number of the firms participating in the publicity program.

★

Grady in New Position

Anthony G. Grady was appointed national accounts representative of the Nitrogen Products Division of Sinclair Chemicals, Inc., Chicago, it was announced last month. He will continue to headquarter in Chicago.

Prior to joining Sinclair Refining Co. in 1920, Mr. Grady was associated with Rohm & Haas Co., Philadelphia, where he worked on the development of the Peet-Grady Method to test insecticidal potency. This method was accepted as standard in 1932.

Mr. Grady served Sinclair Refining as chief entomologist until two years ago, when Sinclair discontinued manufacturing insecticides and the Sinclair Chemicals subsidiary was formed, where he continued to work in the same capacity. More recently Mr. Grady has been engaged in the sale of solvents.

Bagenstose to Thomasson

David R. Bagenstose has joined Thomasson of Pa., Inc., Norristown, Pa., aerosol contract packagers, as vice-president and general sales manager. Mr. Bagenstose formerly was sales manager of International Resistance Co., Philadelphia, with whom he was associated for 15 years.

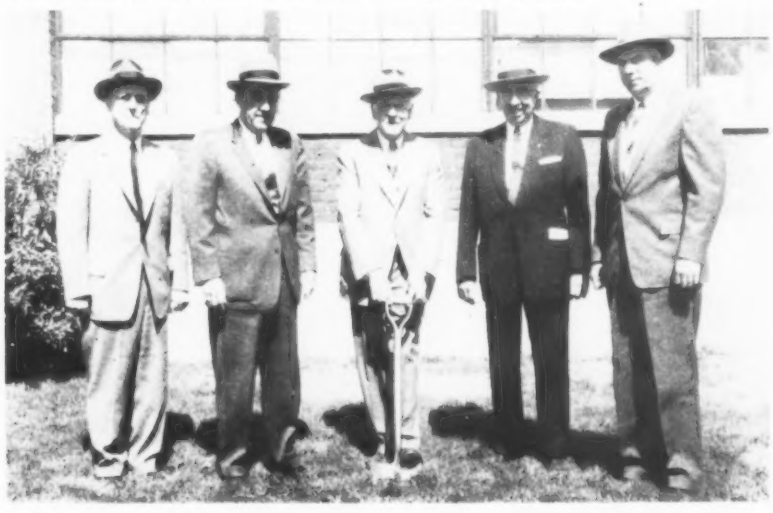


David R. Bagenstose

New trigger grip that fits over standard aerosol can is now being distributed by Atlas Mills, 530 Boston Ave., Medford 55, Mass. Convention aerosol units are converted into spray guns with the new device, which consists of plastic handle and metal trigger. Item is suggested by Atlas as aerosol premium.



John H. Breck, Sr., chairman of the board of John H. Breck, Inc., Springfield, Mass., uses gold shovel to break ground at start of company's $200,000 expansion project at its West Springfield manufacturing plant. The new facilities will provide new shipping and receiving docks, greater warehousing area and expanded quarters for Breck's quality control laboratory. Construction is scheduled for completion in August. Others in photo are, left to right: Edward W. Larkin, Edward W. Larkin & Co.; Archibald S. MacNeish, Alderman & MacNeish Architects; Walter Cogans, chairman of the Board of Selectmen, West Springfield; and Phillip L. Sherman, traffic manager of Breck.



Which filler gives mild abrasive action?

Which filler provides easier "wipe-off"?



CELITE does both jobs in your polish-cleaner



Johns-Manville CELITE

INDUSTRY'S MOST VERSATILE MINERAL FILLER

Production...

EQUIPMENT • MATERIALS • PROCESSING

Production Clinic

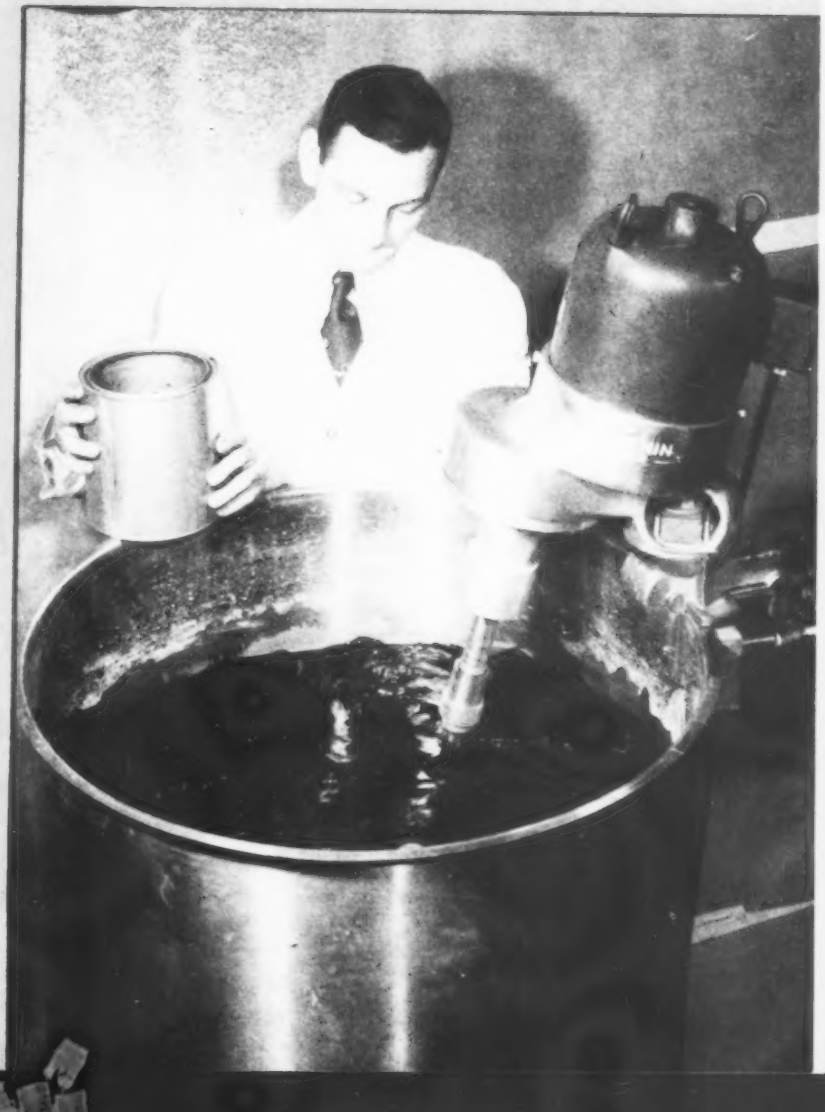
Soap Plant Observer

Products and Processes

New Patents

Book Reviews

Bulletins and Equipment



Widely used and versatile machine is this portable mixer shown in a typical installation. Unit shown, made by Mixing Equipment Co., Rochester, N.Y., is discussed in article beginning on Page 141 *on liquid mixing of chemical specialties.*

HOUCHIN
Supplies Your Every Soap Need *from* KETTLES *to* WRAPPING MACHINES

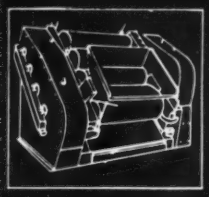
Whether you require one piece of machinery, or equipment for an entire soapery, Houchin can supply your every need.

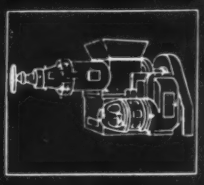
Such a breadth of experience assures you of machines designed not only to perform a single process, superlatively well—but also of machines which, you will discover, coordinate closely with the preceding and following processes.

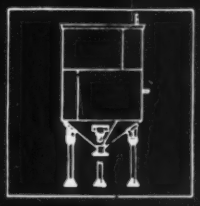
Specifically, Houchin builds:

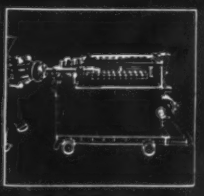
KETTLES
CRUTCHERS
AMALGAMATORS
MIXERS
SLABBERS
MILLS
PLODDERS
CHIPPERS & POWDER MILLS
LAUNDRY SOAP CUTTERS
TOILET SOAP CUTTERS
PRESSES
AND MANY OTHER KINDRED MACHINES.

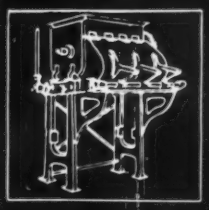
Whether you need a single one of these machines or equipment for an entire soapery, it will pay you to write us and get information about the complete Houchin line of soap machines.

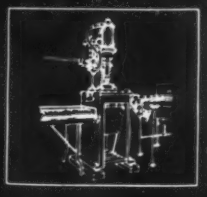

MILLS

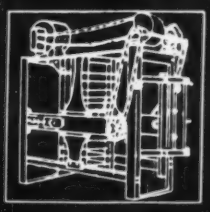

PLODDERS

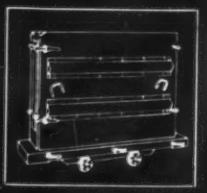

KETTLES

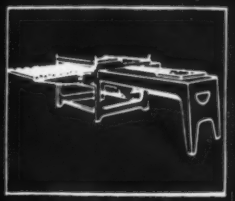

TOILET SOAP CUTTERS


AMALGAMATORS


PRESSES


SLABBERS


SOAP FRAMES


LAUNDRY SOAP CUTTERS

HOUCHIN MACHINERY CO., INC.

HAWTHORNE, NEW JERSEY, U. S. A.

Manufacturers of Soap Making Machinery for over a Century

Fluid Mixing of Chemical Specialties

By James Y. Oldshue* Mixing Equipment Co., Rochester, N. Y.

FLUID mixing is an integral part of chemical specialties manufacture. In almost every formulation, some kind of mixing is required. It is important to secure the best possible mixing for each formulation. While everyone agrees on the need for "good mixing," there is wide variation in defining the term for each particular application.

Of utmost importance in achieving good mixing is the selection of a mixer designed for the specific product, or group of products. In other words, exactly what performance standards must the mixer be required to meet in a particular installation? Once this has been determined, the types of mixers needed can be specified and evaluated.

Considering the overall aspects of mixing, we may first look at the different flow patterns produced by various impeller types and combinations. Next, the quantitative specifications that can be written around certain types of mixing applications should be studied. By reviewing the various quantitative specifications now available, it will be possible to relate more closely actual applications to these specifications.

Mixers are used frequently for five applications. Heat transfer is important in many processing steps. Blending of miscible liquids is common in processing. Dissolving and dispensing of solids into liquids may be desired. Two or three phase emulsions are employed frequently. Suspension of solids in the system is often required.

In a typical chemical specialties process, mixers are used to blend wax and solvent or wax and water. Emulsifying agents must be prepared and mixed. The ingredients are then combined in the main mixing tank. The finished material is passed to storage tanks where uniformity of contents is a must. If solids are included in the formulations, they are usually incorporated in the main mixing tank.

*Paper presented before the 43rd midyear meeting, Chemical Specialties Manufacturers Association, Chicago, May 22, 1957.

General Mixing Theory

BAFFLES: Tanks may be classified as baffled or unbaffled in terms of their general overall fluid flow characteristics. A baffled tank has the following characteristics:

1. Top to bottom turnover with complete intermixing of all fluid streams throughout the entire vessel.

2. The absence of a vortex through which air is drawn down into the fluid.

3. The absence of a swirling flow pattern as contrasted to top to bottom turnover.

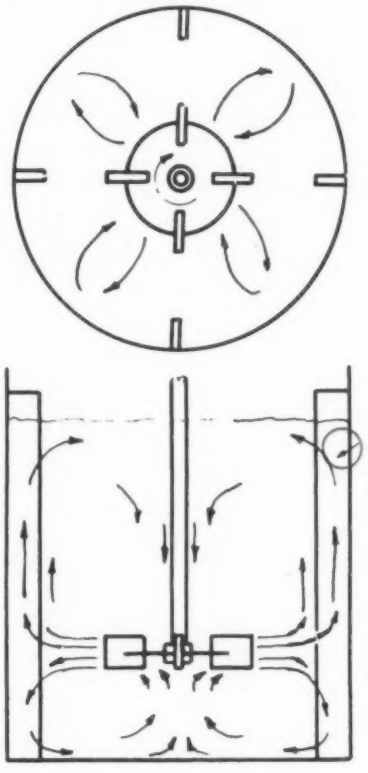
In most cases, a baffled flow pattern is desirable. There are times, however, when it is necessary to suck powders down from the surface, or introduce gas from the surface. In such cases an unbaffled flow pattern is useful. Unbaffled flow patterns are often unstable, and cause severe fluid forces which act on the impeller and the shaft and are erratic on scale-up performance. Unbaffled flow patterns are used only when absolutely necessary, and special precautions must often be taken.

A baffled flow pattern may be produced in several different ways. In a vertical cylindrical tank, the most common way is to use four baffles, each one-twelfth of the tank diameter in width, placed equally around the tank as shown in Figure 1. This baffle width may be modified when dealing with non-Newtonian fluids.

Top-entering propeller type mixers of up to about three horsepower in capacity can be placed in an angular off-center position and achieve characteristics of a baffled flow pattern as shown in Figure 2.

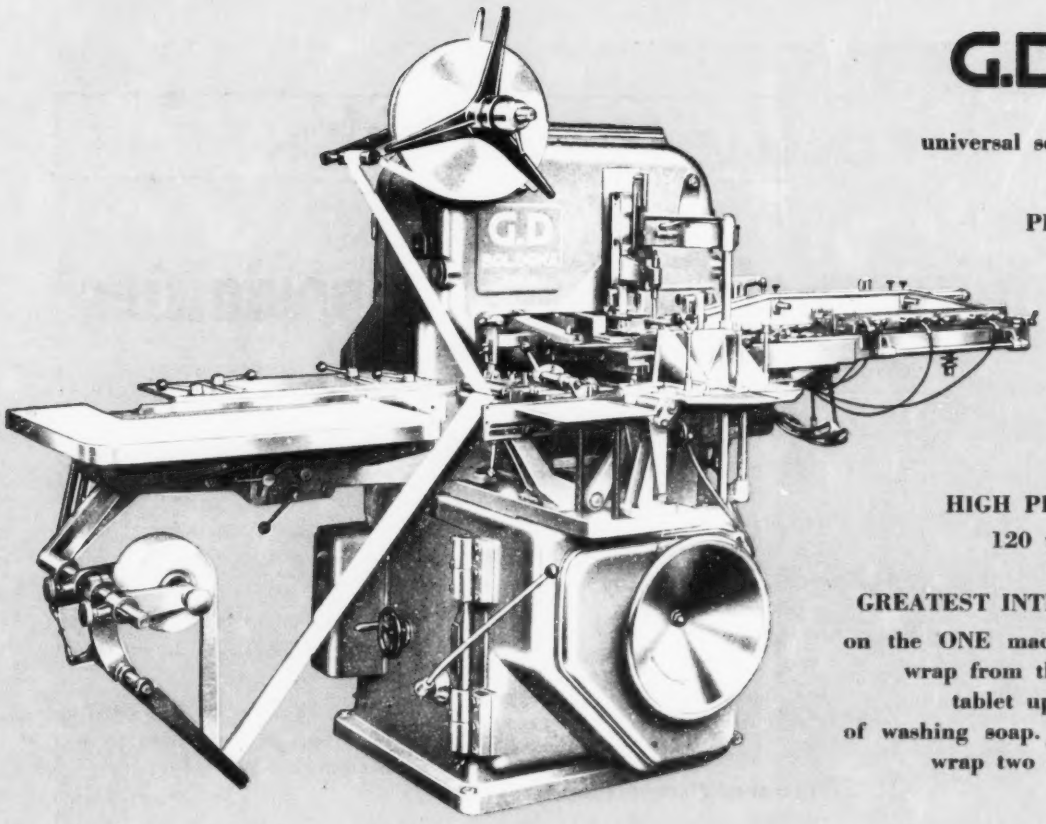
In square tanks, a baffled flow pattern is produced by two

Figure 1. Fluid flow pattern. Turbine positioned on center with baffles (circled in color). Top drawing shows bottom view; side view is shown in lower drawing.



G.D 4000

universal soap-wrapping machine

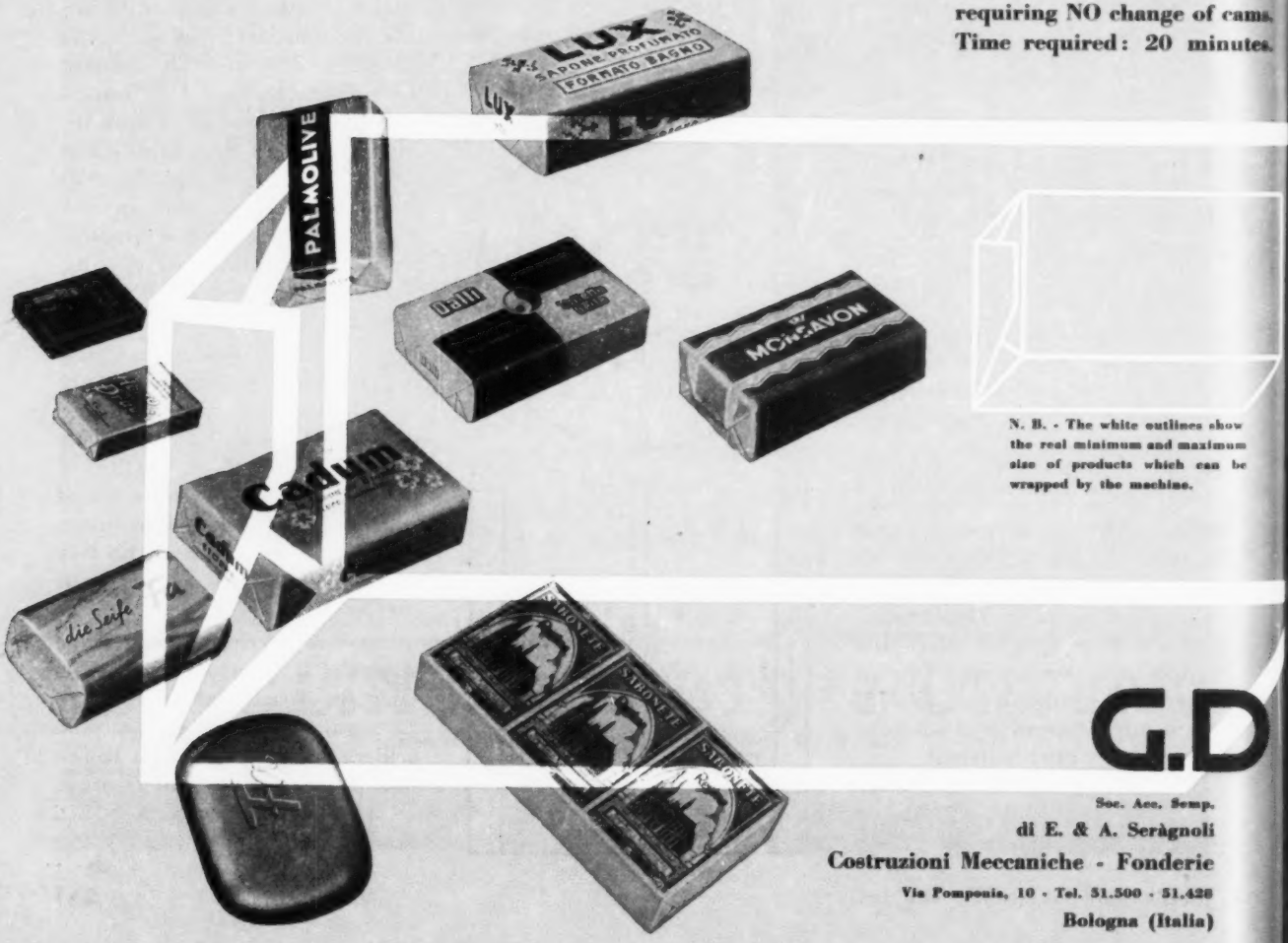


PERFECT WRAPPING:
on all types of soaps (with two inner wrappings and an external label or in cellophane only) with automatic glueing on three sides

HIGH PRODUCTION SPEED:
120 wrappings per minute

GREATEST INTERCHANGEABILITY:
on the ONE machine it is possible to wrap from the small "Hotel,, size tablet up to the 400 gr. cake of washing soap. It is also possible to wrap two or three loose tablets into one packet

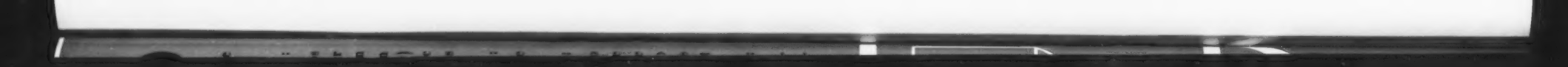
EASY CHANGE OF SIZE GROUPS:
requiring NO change of cams. Time required: 20 minutes.



N. B. - The white outlines show the real minimum and maximum size of products which can be wrapped by the machine.

G.D

Soc. Acc. Semp.
di E. & A. Seràgnoli
Costruzioni Meccaniche - Fonderie
Via Pomponia, 10 - Tel. 51.500 - 51.428
Bologna (Italia)



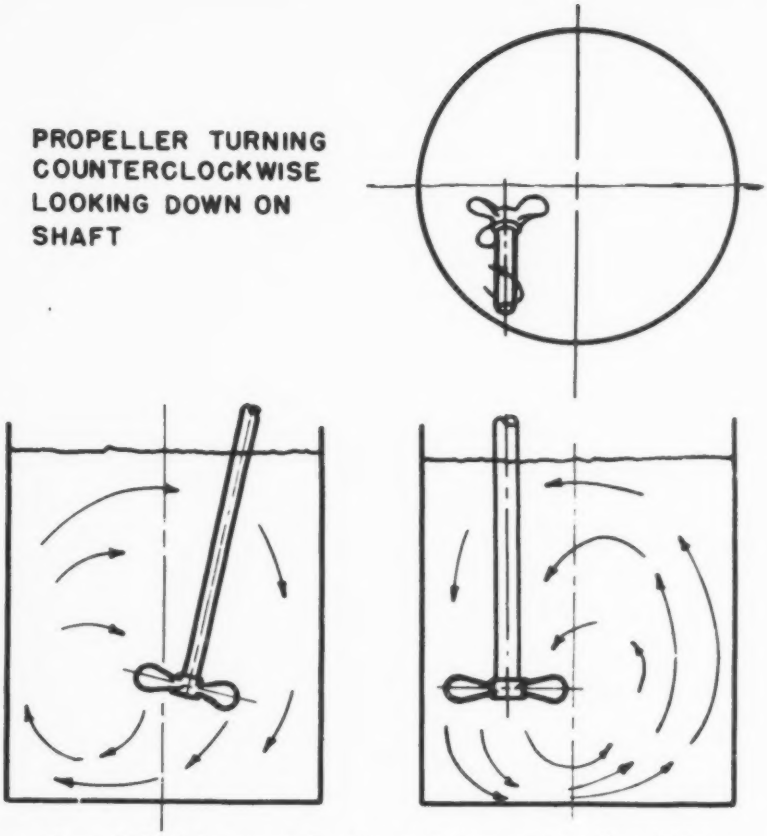


Figure 2. Fluid flow pattern. Propeller in off-center position without baffles.

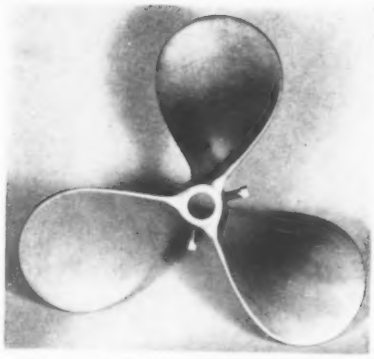
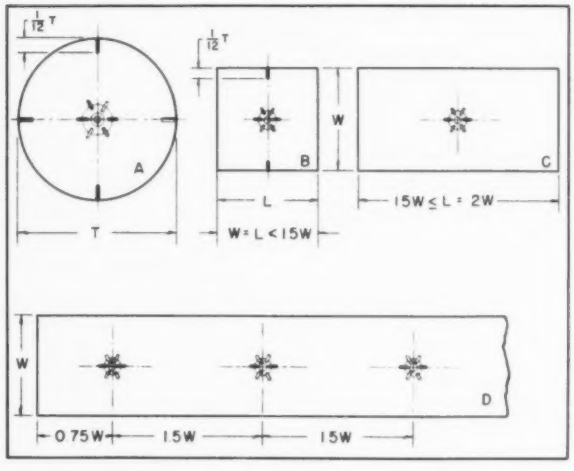


Figure 4. Photograph of marine type propeller.

baffles placed opposite the impeller on opposite sides, each baffle being one-twelfth of the tank width. This system is also used in tanks in which length is less than one and one-half times the width. The corners act as partial baffles and, in some cases, baffles can be eliminated and still retain a top to bottom flow pattern. In rectangular tanks, in which length is greater than 1.5 times the width, it is possible to eliminate the use of baffles. At high horsepower levels, above 2 HP/1000 gallons, baffles must be provided even in rectangular tanks. These are illustrated in Figure 3.

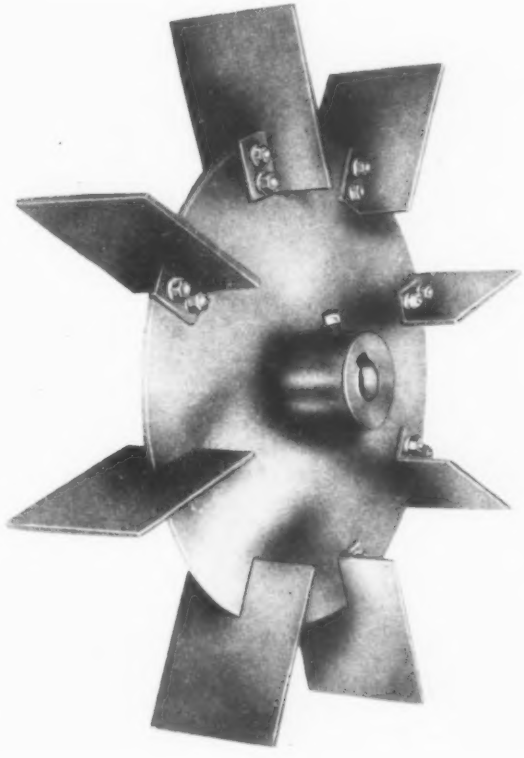
Figure 3. Baffle and mixer positions for various tank configurations.



Impellers

IMPELLERS may be divided into two general classifications. Axial flow impellers include propellers, as in Figure 1. Radial flow impellers include turbines, Figure 5, and paddles. Various modifications are made to the blade shapes of

Figure 5. Photograph of flat blade turbine.



Choosing a fluid mixer for **top performance**

You can get better mixing, and avoid many regrets, by asking yourself these five important questions before you buy a mixer for fluids:

1. *Can I be sure, in advance, that I'll get the uniformity I want, as fast as I want it?* You can—when you mix with LIGHTNIN Mixers. Every LIGHTNIN is guaranteed, unconditionally, to do the job you expect it to do.

2. *How can I get ready to meet a change in mixing requirements?* Simply buy with an eye to your future needs. One good way to keep your mixing operation flexible: use LIGHTNIN Portable Mixers. You can clamp them on any open tank; switch to a different vessel later and change shaft length and propeller size to meet the new requirements.

Caution: Be sure the mixer is sized big enough now to handle the toughest job you'll give it.

3. *Will I be able to get replacement parts in a hurry if I ever need them?* You avoid waiting for special parts when you use LIGHTNIN Mixers. They're built entirely of standard interchangeable components—always in stock, ready to ship on shortest notice.

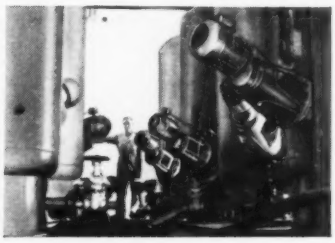
4. *Do some mixing jobs require special impellers?* Careful laboratory and field tests prove you can handle at least 95% of your fluid mixing needs with a standard 3-blade propeller (or standard flat-blade or curved-blade turbine, on large mixers). The exact balance of *flow* and *turbulence* you need is easily obtained by varying the size and speed of the impellers. You get guaranteed mixing results with lower-cost standard impellers when you mix with LIGHTNINs.

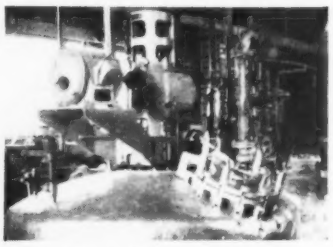
(You can, of course, get a wide choice of LIGHTNIN special impellers for those few mixing jobs requiring them.)

5. *Where can I get prompt, competent service on fluid mixing?* Just call your LIGHTNIN Mixer representative. He knows fluid mixing thoroughly—can quickly give you a *guaranteed* recommendation. And he's near you—look him up in Thomas' Register. Or write us direct.



GET RAPID DOUBLE-ACTION MIXING, or slow gentle stirring, in any open tank, with any of 30 LIGHTNIN Portable Mixers in sizes from ⅛ to 3 HP. No baffles are needed in the tank, and maintenance is extremely simple.





IN TANKS OF ANY SHAPE, you can get just-right mixing to bring your product quickly to uniformity. Propeller-type LIGHTNINS (left) are supplied for open or closed tanks. Turbine-type LIGHTNINs (right) are available in hundreds of power-speed combinations, with interchangeable speeds, in sizes from 1 to 500 HP.

WHAT SIZE AND TYPE of mixer do you need? Check here for latest bulletins giving full description, packed with helpful facts on mixing:

- ☐ Turbine, paddle, propeller types: top or bottom entering: 1 to 500 HP (B-102)
- ☐ Propeller types; top entering: ¼ to 3 HP (B-103)
- ☐ Portable: ⅛ to 3 HP (B-108)
- ☐ Side entering: 1 to 25 HP (B-104)
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- ☐ Condensed catalog showing all types (B-109)
- ☐ Quick-change rotary mechanical seals for pressure and vacuum mixing (B-111)
- ☐ Data sheet for figuring mixer requirements (B-107)

Check, clip, and mail with your name, title, company address to:

MIXING EQUIPMENT Co., Inc., 167-f Mt. Read Blvd., Rochester 11, N.Y.

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Lightnin® Mixers

MIXCO fluid mixing specialists

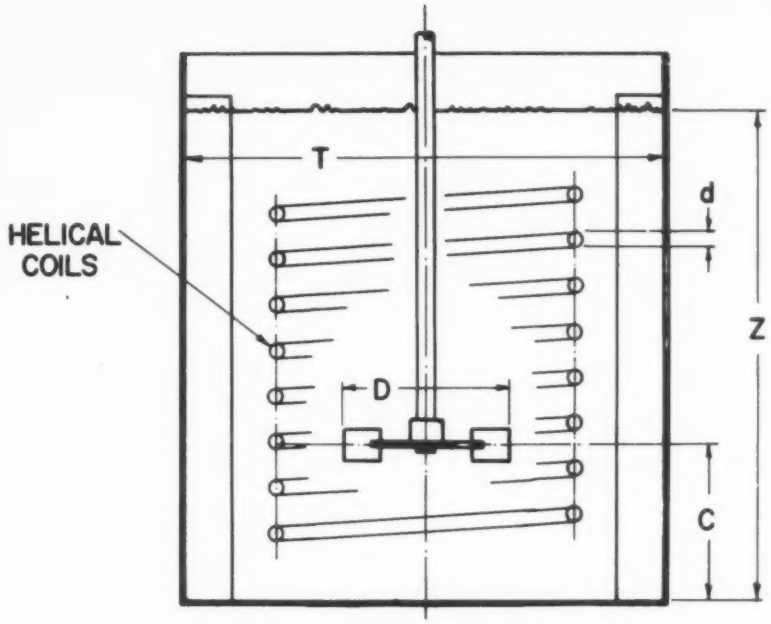


Figure 6. Drawing of helical coil arrangement.

turbines and paddles, but their overall flow pattern in a baffled tank is basically similar. Most modifications to impeller type are made for special mechanical requirements.

Fluid Flow, Shear

EVERY mixing impeller produces fluid flow throughout the tank and a certain level of fluid shear and turbulence in the vessel. Much valuable information can be obtained by studying the fluid flow relationships in mixing vessels in various configurations.

The power (P) consumed by the impeller produces flow and impeller head.

$$P = Q\ H \qquad (1)$$

The flow produced by the mixing impeller, (Q), is measured as pounds of fluid per hour.

The impeller head (H), has a strategic function since it is related to the velocity head leaving the tips of the impeller blade. This velocity head leaving the blades of the impeller comes in contact with the slow moving fluid flow in the bulk of the tank. The contact of these two different velocities produces fluid shear, which in turn can result in turbulence depending upon the viscosity of the fluid involved. Thus, the impeller head is related to fluid shear which in turn is the means of providing turbulence in the system.

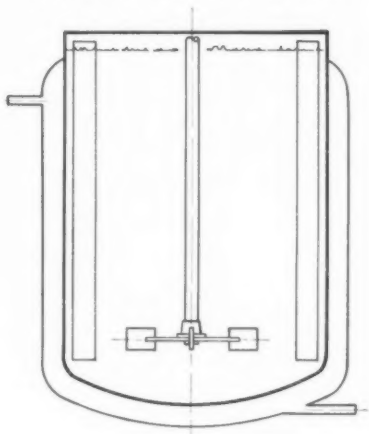
In many chemical specialties applications, fluid shear is required to produce emulsions, dispersions, or hasten rate processes. The division of a given level of power into flow and fluid shear is a function of the design of the impeller. There are many ways in which this division may be accomplished, but the most practical method at the present time is to use impellers of one geometric series but of varying impeller size to tank size ratio. By combining several relationships for mixing impellers, an equation is derived,

$$Q_p \propto \left(\frac{D}{T} \right)^{4/3} \qquad (2)$$

which indicates that the flow at a given level of power, Q, is a function of the impeller size, D, to tank size, T, ratio to the 4/3 power. Thus, a large impeller at slow speed gives more flow and less fluid shear than does a small impeller at high speed.

Determination of the level of power and the distribution of that power into flow and fluid shear should be determined in every mixing operation. Additional information on general mixing theory is given by Rushton and Oldshue (5).

Figure 7. Drawing of jacketed tank.



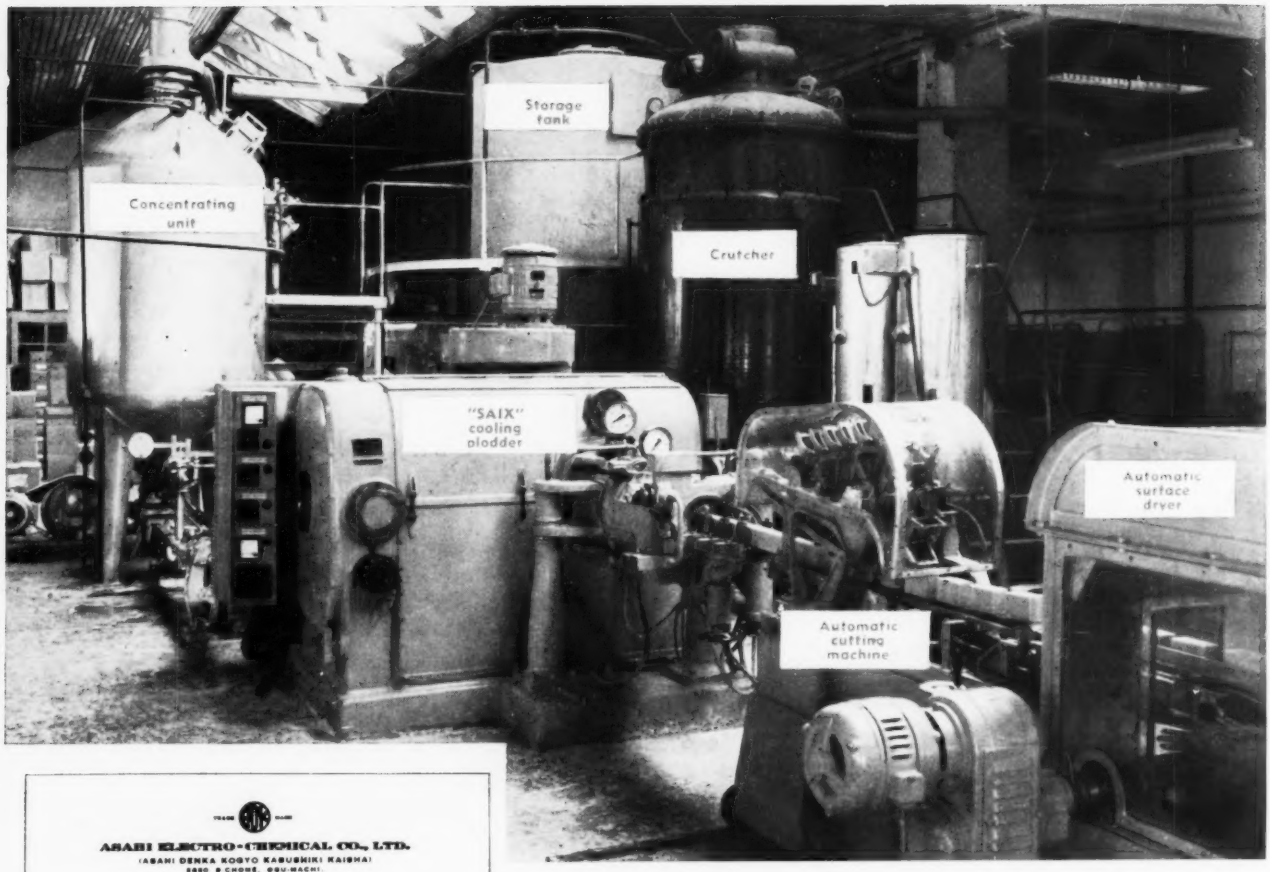
JACKETED TANK

Process Requirements

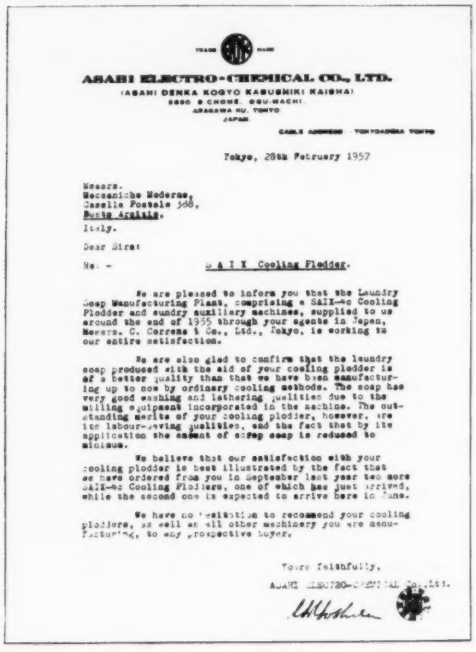
EVERY mixing process has its own requirement for flow and fluid shear. Research and field experience have indicated that once this requirement is satisfied, all impellers, regardless of shape or design, give approximately the same process result. The only exception to this observation is in processes where direction of flow is a controlling factor. Differences in axial and radial flow impellers may be observed in those cases. A principal concern is knowing what fluid regime, that is, what combination of flow and fluid shear, is required for a process, and to be able to choose an impeller to meet that fluid specification.

By the use of standard impeller types, it is possible to study the effect of mixing on various processes, and to establish the fluid regime required. The fluid regime can be scaled up or down and a mixer selected to meet this fluid regime under any conditions of tank size.

Heat transfer is an important aspect of many chemical specialties manufacturing processes. There are sufficient quantitative



Photograph of a "SAIX" plant capable of producing automatically one ton of household soap per hour.



ASAHI ELECTRO-CHEMICAL CO., LTD.
(ASAHI DENKA KOGYO KABUSHIKI KAISHA)
5880 O CHOME, OGU-MACHI,
ARAKAWA KU, TOKYO,
JAPAN.

Tokyo, 28th February 1957

Messrs.
Meccaniche Moderne,
Casella Postale 568,
Busto Arsizio.
Italy.

Dear Sirs:

Re: - S A I X Cooling Plodder.

We are pleased to inform you that the Laundry Soap Manufacturing Plant, comprising a SAIX-Mc Cooling Plodder and sundry auxiliary machines, supplied to us around the end of 1955 through your agents in Japan, Messrs. C. Correse & Co., Ltd., Tokyo, is working to our entire satisfaction.

We are also glad to confirm that the laundry soap produced with the aid of your cooling plodder is of a better quality than that we have been manufacturing up to now by ordinary cooling methods. The soap has very good washing and lathering qualities due to the milling equipment incorporated in the machine. The outstanding merits of your cooling plodder, however, are its labour-saving qualities, and the fact that by its application the amount of scrap soap is reduced to minimum.

We believe that our satisfaction with your cooling plodder is best illustrated by the fact that we have ordered from you in September last year two more SAIX-Mc Cooling Plodders, one of which has just arrived, while the second one is expected to arrive here in June.

We have no hesitation to recommend your cooling plodders, as well as all other machinery you are manufacturing, to any prospective buyer.

Yours faithfully,
ASAHI ELECTRO-CHEMICAL Co.,Ltd.

"SAIX" TYPE AUTOMATIC COOLING PLODDER — MOST UP-TO-DATE PLANT FOR THE CONTINUOUS FINISHING OF SOAPS

"SAIX" cooling plodder performs six otherwise separate operations: it chills, homogenizes, controls internal texture of the soap, perfumes, gives translucency if required, and extrudes the soap as a continuous bar of any desired size.

"SAIX" performs these six steps under air tight conditions.

"SAIX" Versatility: Fats of high or low titer and containing high or low moisture content are processed rapidly and efficiently into good quality soaps:
● **pure 62-63% T.F.M. soaps** (containing 28% moisture) ● **filled soaps** (100% sodium silicate — **bentonite — soda ash, etc.) down** to 35% T.F.M. ● soaps made with 100% coconut oil ● **dried soaps, pure or filled, up to 72-73% T.F.M. ● high rosin content soaps** (up to 25-30% of rosin on fatty acids) ● **toilet soaps** ● transparent soaps, without the addition of sugar, soda ash, alcohol, glycerine, etc. ● **medicinal soaps (carbolic soap, phenol soap, etc.)** ● **industrial soaps** ● **laundry soaps** ● soaps made with olive oil foots, etc.

Main advantages over competitive plants on the market: When using the "SAIX" cooling plodder soap need not be dried in order to effect cooling by water evaporation, resulting in the following economies from the use of "SAIX" equipment:

● 100% savings on steam, **50% on cooling water, 50% on electrical power, 70% on labor** ● "SAIX" produces soaps crystallized up to 100% in "beta" phase ● Warm water up to (+28° C) can be used to cool the soap, always getting a firm bar ● **Production capacity: "SAIX" is manufactured for the following capacities: 0.1, 0.25, 0.5, 1, 2, 3 and more tons per hour** ● "SAIX" can be run by an unskilled operator ● **"SAIX" can extrude soaps containing from 35% up to 74% fatty acids which can be cut, stamped and packaged immediately without scraps** ● **"SAIX" refines and homogenizes the texture of soap getting a finished bar free from end markings and stripes** ● **Transparent soaps produced by a "SAIX" require no further milling and plodding for uniform texture and transparency** ● **Complete guarantee is given that there are absolutely no changes in fatty acids and moisture percentages between the hot liquid soap fed into the "SAIX" and the resulting bar soap.**

● **"SAIX" units can be supplied alone or complete with additional equipment:** concentrating unit, **automatic cutting machine, automatic tunnel, automatic stamping machine, storage tank, soap crutcher** ● **"SAIX" extrudes soap without any worm to force the soap in the compression cone: these worms require the use of high melting point fats and reduce the natural moisture contents of the soap** ● **"SAIX" extrudes firmer bars which retain their shape in storage** ● **"SAIX" allows maximum economy in space** ● **MECCANICHE MODERNE are also makers of: complete plants for toilet and chip soaps, chipping machines, chilling rolls, soap driers, soap conveyors, silos, soap weighing machines, stamping machines, toilet soap pilot plants, plate and frame cooling presses** ● Continuous automatic sulfonating plants, "SULFAN" type from 0.1 to 0.5 tons per hour and more capacity, **spray driers for soap and detergents to make hollow beads or fine powders from 0.25 up to 5 tons per hour capacity.**

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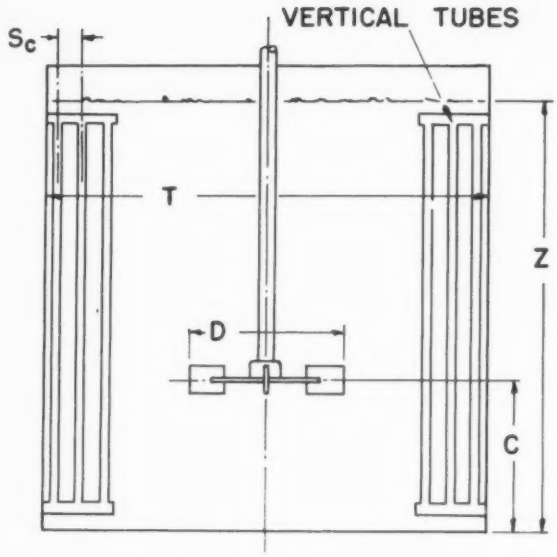


Figure 8. Drawing of vertical tube arrangement.

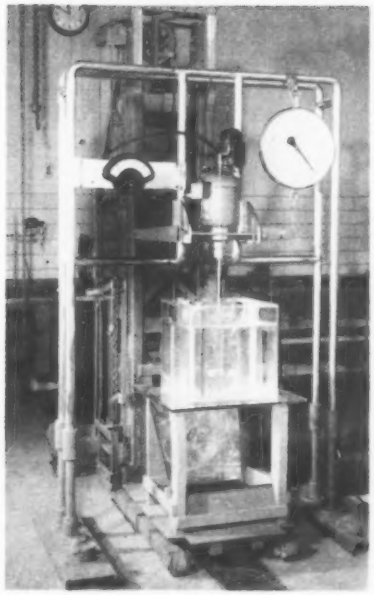


Figure 9. Portable blending installation.

data at the present time to enable the accurate calculation of heat transfer coefficients for almost any circumstance.

There are three basic types of heat transfer surfaces commonly encountered:

1. Helical coils (Figure 6)
2. Jackets (Figure 7)
3. Vertical tubes (Figure 8)

On all of these surfaces, the effect of variables is essentially the same. However, the absolute value of the coefficient under certain conditions varies depending upon the type of surface.

Table I shows the relationship between four of the important factors involved in choosing a heat transfer surface for these three basic types, using helical coils as the basis for comparison. In terms of the heat transfer coefficient on the surface, the vertical tube gives the same coefficient as the helical coil. Jackets have a coefficient 65 per cent as high.

In regard to the total amount of surface practical to place in a system, the vertical tube and the jacket have less area than a helical coil.

In terms of cooling coefficients on the inside of the tubes, helical coils are formed from a single tube, and the coefficient is relatively high. Vertical tubes are often set up for parallel flow so the coefficient is low. Jacketed tanks have coefficients which depend upon the amount of baffling and circulation inside the jacket. In regard to heating with steam, all the surfaces have high coefficients.

Table I. Relative heat transfer coefficient compared with helical coils.

Factor	Helical Coils	Vert. Tubes	Jackets
Mixer Side Coefficient	1.0	1.0	0.65
Area Available	1.0	0.5	0.5
Inside Film (cooling water)	1.0	0.1	0.5
Inside Film (steam)	1.0	1.0	1.0

There is actually little the mixer can do to affect the heat transfer coefficient once complete blending and forced convection is achieved throughout the entire tank. The temperature throughout the fluid will then be uniform. The heat transfer coefficient, h, is proportional to the power, P, to the 1/5 power. Thus,

$$h \propto P^{1/5}$$

doubling of the power input to the system will increase the heat transfer coefficient by only 15 per cent.

It is common to design a tank for a basic mixing operation, which also features heat transfer devices. As long as forced convection throughout the entire system is adequate and uniform, the heat transfer characteristics are usually as good as can be obtained. After calculating the heat transfer coefficient, the required area can be obtained. If an extremely large number of tubes are placed in the system, it may be necessary to increase the power level to insure forced convection around all the tube surfaces.

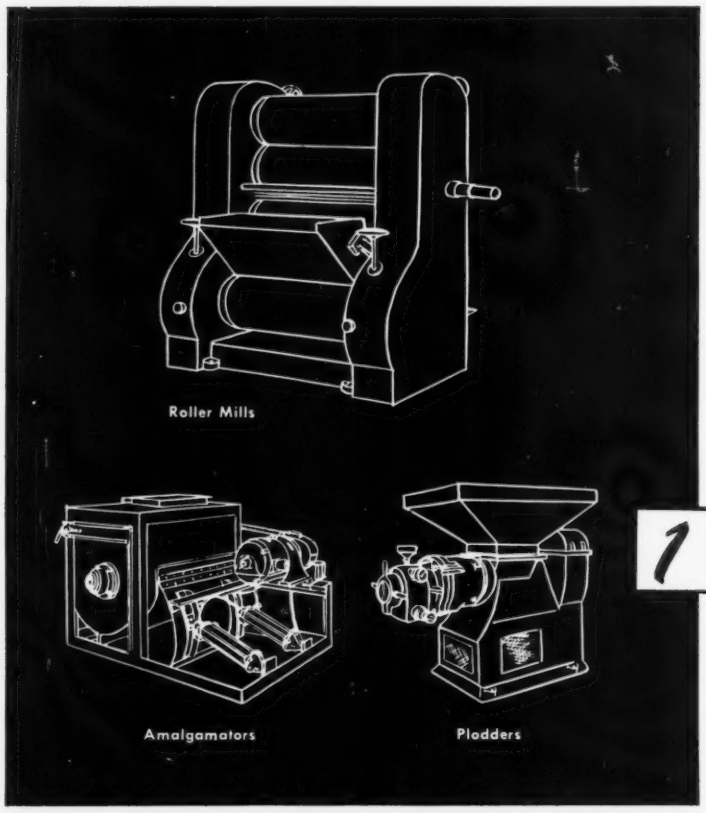
The equation below gives the effect of mixing variables on helical coil coefficients. A complete description of the range of the variables in this equation, plus a comparison with vertical tubes and helical coils, is given in the article by Oldshue and Gretton (2).

$$h \propto \left(\frac{k}{d}\right)\left(\frac{ND^2\rho}{\mu}\right)^{0.67}\left(\frac{C_p\mu}{k}\right)^{0.33}\left(\frac{D}{T}\right)^{0.1}\left(\frac{d}{T}\right)^{0.5} \quad (4)$$

h = film heat transfer; k = thermal conductivity; d = tube diameter; D = impeller diameter; ρ = density of fluid; μ = viscosity at tank temperature; C_p = specific heat, and T = tank diameter.

Tube size has an effect on

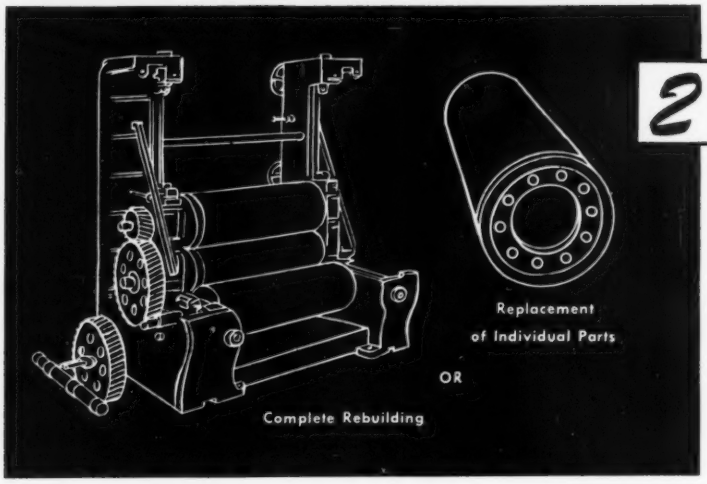
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NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine. MacNair - Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be $1.00 per copy.

No. 2,787,573. Pesticidal Compositions and Their Use, patented by Jack S. Newcomer, Grand Island, N. Y., assignor by mesne assignment to Pennsylvania Salt Manufacturing Co., Philadelphia. Disclosed is a composition prepared for use in combating microorganisms comprising a surface active agent, and a compound having the formula



Ar_1 and Ar_2 represent an aryl radical selected from the group consisting of phenyl, biphenyl, terphenyl and naphthyl radicals, said aryl radicals having from 0 to 3 substituents selected from the group consisting of halogen and alkyl radicals having from 1 to 5 carbon atoms, said composition forming an emulsion with water upon agitation therewith.

No. 2,789,078. Disinfecting and Deodorizing Compositions and Method of Using Same, patented by Ralf B. Trusler, Dayton, O., assignor to Davies-Young Soap Co., Dayton, O. This patent covers a composition which generates a halogen selected from the group consisting of chlorine and bromine in moisture at a controlled rate and consisting essentially of a substantially dry intimate compressed mixture of about 5% to 95% by weight of a dihalo-hydantoin selected from the group consisting of 1,3-dichloro-5,5-dimethylhydantoin and 1,3-dibromo-5,5-dimethylhydantoin and the remainder at least one retardant for the rate of decomposition of the dihalo-hydantoin in moisture and of the rate of release of the halogen therefrom to the moisture which is selected from the group consisting of naphthalene, paradichlorobenzene, hexachloroethane, 4,4-dimethylbenzophenone, o-diphenyl benzene and camphor.

No. 2,788,328. Cleansing Composition, patented by Andrew E. Merget, Poughkeepsie, N. Y., assignor to De Laval Separator Co., Poughkeepsie. A cleansing composition is described for cleaning glass pipe lines of milking machine installations, which consists essentially of, by weight, 1 to 3% sodium hydroxide, 20 to 50% sodium tripolyphosphate, 4 to 10% sodium carbonate, 40 to 60% sodium metasilicate, and 2 to 10% trisodium phosphate, said composition being free of any glass etching agent and any wetting agent which promotes foaming of an aqueous solution of said composition, whereby said solution is non-foaming and avoids etching of the glass pipe lines.

No. 2,788,924. Beaded-Stem Dispensing Valve for Gas Pressure Containers, patented by Jack W. Soffer, St. Louis, Mo., assignor to Development Research, Inc., St. Louis. Covered is a rockable tubular dispensing valve member adapted for mounting within a resilient sleeve within an aperture in a gas-pressure container, comprising a tubular stem member having a valve head portion closing its inner end, a discharge spout opening at its outer end, a lateral port adjacent the valve head and adapted to permit communication with the stem portion when the valve head portion is displaced from closed position, further having an outer cylindrical surface axially outward of said lateral port extending a width greater than the depth of the aperture of such container, and adapted to be sealedly encompassed by such sleeve at the level it passes through such aperture and an annular bead extending radially from said surface at a point outward of such lateral port and inward of such aperture and adapted to distend such resilient sleeve adjacent the inner side of container aperture and seal such resilient sleeve thereagainst despite relative rocking movement of said valve member, together with a second annular bead spaced outwardly along such outer cylindrical surface axially outward from said first annular bead a distance greater than the thickness of the container aperture and adapted to distend such resilient sleeve adjacent the outer side of the container aperture and seal such resilient sleeve thereagainst.

No. 2,787,638. Detergent Cyclohexyl-Cyclohexyl Benzene Sulfonic Acids and Their Alkali Metal Salts, patented by Allen H. Lewis, Berkeley, Calif., assignor to California Research Corp., San Francisco. The patent deals with compounds of the formula



where X is a member of the group consisting of hydrogen and the alkali metals and



designates a cyclohexyl radical, the sodium salts of which are characterized by a soil-removal effectiveness greater than that of sodium dodecyl benzene sulfonate in 300 p. p. m. hard water.

No. 2,787,595. Sulfoxide Containing Detergent Compositions, patented by Irving D. Webb, Rosemead, Calif., assignor to Union Oil Co. of California, Los Angeles. A detergent composition is disclosed comprising between about 5 and about 40 percent by weight of a dialkyl sulfoxide of the general formula

wherein R represents an alkyl group selected from the class consisting of methyl and ethyl and R' represents an alkyl group containing from about 6 to about 22 carbon atoms, and at least about 30 percent by weight of water-soluble salt selected from the class consisting of the alkali-metal sulfates, carbonates, silicates, phosphates, borates, and mixtures thereof.

No. 2,787,596. Cleaning Composition, patented by Daniel Stewart, Uphall, Broxburn, West Lothian, Scotland, assignor to Scottish Oils Ltd., Glasgow. A cleaning composition is patented consisting essentially of the following ingredients by weight: An alkali metal alkyl sulphate obtained by reacting a shale oil fraction boiling within the range of 180-330° C. with sulphuric acid of 90-98% strength at a temperature under 20° C. followed by a neutralization of the resulting alkyl hydrogen sulphate by treatment with an alkali metal base. About 30-70%. A mineral oil boiling within the range of about 150-275° C. About 10-50%. A high molecular weight oxygen-containing organic solvent selected from the group consisting of diethylene glycol alkyl ethers, cyclohexanol and mono- and di-methyl cyclohexanol. About 1-10%. An ammonium salt selected from the group consisting of ammonium carbonate and ammonium sulphate. About 5-15%. Water, up to about 50%.

No. 2,788,307. Stabilized Non-Corrosive Pesticidal Composition, patented by Ralph Rodriguez-Torrent, Winter Park, and Robert N. Fitzwater, Orlando, Fla.; dedicated to the free use of the People in the territory of the United States. The patent deals with an emulsifiable pesticidal concentrate comprising lindane, alkylated naphthalenes, isophorone, an emulsifier, and an amount sufficient to prevent interaction of the components of the concentrate and to prevent corrosion of metallic containers holding the same of a water-soluble inorganic salt selected from the group consisting of the thiosulfates and polythionates of a member selected from the group consisting of sodium, potassium, and ammonium.

No. 2,789,077. Methods for Producing DDT-Benzene Hexachloride Insecticides and Resulting Compositions, patented by Murray Zakheim, Philadelphia, Pa., assignor to Pennsylvania Salt Manufacturing Co., Philadelphia. Revealed is a new composition of matter consisting essentially of a DDT-BHC mixture in which the DDT is present in the form of a technical

(*Turn to Page* 203)

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Secondary alkyl sulfates with satisfactory surface-active properties could be derived from a raw material made up of distillate from phenol-free shale oil and olefin fractions C_{10}-C_{14}, C_{14}-C_{16}, C_{16}-C_{18}. A. Ju. Rabinovich and E. S. Skripchenko, *Masloboino-Zhirovaya Prom.* 22 (6) 19-20 (1956), through *J. of Am. Oil Chemists Society*, April 1957.

★

Sugar Cane Wax

A hard deresinated grade of sugar cane wax can be used to produce excellent paste and liquid solvent type waxes of good polishing characteristics. It has been found to precipitate from solvent naphtha at about the same temperature as carnauba wax. A modified form of the wax which includes the resinous matter is valuable for incorporation in carbon papers. The deresinated wax disperses well with normal emulsifiers to yield stable suspensions and can be used in water emulsion wax products.

Sugar cane wax has been shown to contain long chain, alkali labile ketones as well as the usual waxy alcohols, esters and acids. The presence of ketonic compounds and a larger amount of free alcohols distinguishes sugar cane cuticle wax from all other types of natural waxes.

The yield of 1,000 tons of sugar cane is placed at 1,120 pounds of dark hard wax or 850 pounds of refined wax.

Methods of sugar cane wax production, applications and composition of the wax are described in detail, and 18 literature references supplied. R. G. Spickett, *Manufacturing Chemist*, April 1957, pp. 165-169.

★

Flexible Capsules

Chemical specialties currently being successfully marketed in gelatine capsules include shampoos, insecticides, windscreen washes, mosquito larvicides, sun tan oils, shoe polishes, and lubricating oils, according to J. Clemow, sales manager of R. P. Scherer, Ltd., Slough, England, British associate of R. P. Scherer Co., Detroit, Mich. Mr. Clemow's article appeared in *Manufacturing Chemist*, April 1957.

★

New Disinfecting Compound

A new dichloro-dimethylhydantoin composition for use as a disinfectant and deodorant in urinal blocks was developed recently by Davies-Young Soap Co., Dayton, O. Said, also, to provide bleaching action upon bacterially caused stains, the compound is stable under anhydrous conditions, and decomposes in the presence of moisture, with evolution of chlorine. Evolvement rate of chlorine can be controlled by use of a solid organic retardant. According to R. H. Young, president, Davies-Young will not make the blocks but will license its patent to other chemical producers.

★

Syndet Fights Mine Fires

Foam from commercial synthetic detergents may be the answer to long distance fire fighting in coal and other mines. The original idea was conceived by P. B. Smith, a senior officer in the fire section of the Safety in Mines Research Establishment of Britain's Ministry of Fuel and Power.

Collapse of the roof, excessive temperature, steam, smoke, etc. often prevent workers from getting close enough to use water jets which are effective only within a range of 15 yards. By using foam plugs it is hoped that fires will be dealt with at a distance of at least 300 yards in a matter of minutes.

The problem was how to convert most of the air passing through the entry into the fire zone into foam. In a fire zone bubbles are turned into steam which dilutes the oxygen of the air penetrating into the zone. Flaming combustion generally ceases when the oxygen content in the zone falls below 15 per cent. The oxygen content is reduced to 10.5 per cent if the foam contains one part in 1,600 of its volume in water. To accomplish this aim a cloth net was stretched across the entry at an angle of 45°. The high pressure side of the net was sprayed with an 0.3 per cent by weight solution of dodecyl benzene sodium sulfonate through a nozzle consisting of many concentrically arranged impinging jets. The shape of the spray is a solid cone. Water is used at a rate of about 60 g.p.m. and at a pressure of about 70 p.s.i.

Once flaming combustion has ceased the foam passes through the fire zone and cools the area. Mean bubble diameter is about ¼ to ½ inch, expansion ratio 1,000:1.

★

New Dragoco Perfume Oils

Dragoco, Inc., Holzminden, West Germany, recently announced addition of three new perfume oils to its line of essential oils and aromatic chemicals. The new products, all of which were developed at the firm's laboratories in Holzminden, are as follows: "Mousse liquide 06307," a new material with a moss fragrance. Stable in alkali medium, the product is suitable for incorporation in soap perfumes having a chypre, fougere or sandal character. "Cuir 06771" and "Hairwater Parfumoil 06121," designed for use in toilet preparations, also were introduced.

★

Benzyl Chloride Booklet

A new booklet describing the properties, storage and handling techniques and varied uses of benzyl chloride was issued recently by Heyden Newport Chemical Corp., New York. According to the bulletin, the product is used as an intermediate in the manufacture of surface active agents, insecticides, fungicides and odorants. Copies of technical bulletin BZYL 1-57 may be obtained from the company, 342 Madison Ave., New York 17.

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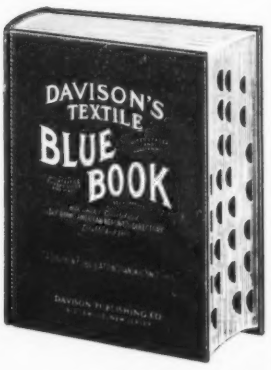
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THE NEW 92nd YEAR TEXTILE BLUE BOOK is not new in a superficial way. It is new in the essential things that count in a complete guide to the nation's second largest industry—TEXTILES; new from cover to cover in all its more than fifteen hundred pages—new items and over nine thousand new mill reports—new information on some twenty-five thousand dealers in Allied Lines—new in up-to-date information on markets you can sell with profit—new in giving thousands of sources where you can save in buying. Old books are obsolete, expensive to use and unreliable, due to an enormous number of changes, all incorporated in the

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PRODUCTION Clinic

By E. G. Thomssen, Ph. D.

THE ability to get along with others ranks as one of the most desirable and important characteristics of an employee. This point emerges from a survey conducted by a professor of sociology who analyzed requirements of 70 large corporations hiring a combined annual total of over 8,000 college graduates.

The importance of this personal attribute is commonly overlooked until a troublemaker has done his destructive work in an organization. He may be quarrelsome, sarcastic, uncooperative, a gossip, or carry tales to the boss. Of all these evils gossip is the most destructive. It may disorganize a working force to the point where it ceases to be a team.

Gossip directed against individuals or the company is equally harmful and usually fails to reach the persons in authority until everyone else has heard them. It takes an alert department head to forestall the damage.

Gossips and rumor mongers frequently are emotionally upset individuals or may be holding a grudge against the person or organization they slander. It is so easy to plant a rumor, and most employees, like most people everywhere, listen more avidly to something derogatory or bad or sad than to something pleasant. If passed along as a deep secret, rumor spreads like wild fire.

The writer remembers one instance when an unfounded rumor was spread that the firm was going to discontinue a certain department. The whispering campaign caused a considerable number of employees to leave and seek employment elsewhere before it reached the ears of management and could be stopped. The worker who had started the story simply did not like the foreman of the department. He cost the company a lot of money because the exodus he had caused cut production at the firm's busiest time of year.



Dr. E. G. Thomssen

What causes a person to gossip? All of us indulge in a little tattling at one time or another. It whiles away the time and adds a little spice to the daily routine. No harm is done, unless such talk provides a malicious or unbalanced person with the opportunity to plant his harmful stories. Frequently such stories are prompted by a feeling of inferiority in the teller. He apparently builds up his own importance by belittling his colleagues, the company for whom he works or its products. When confronted with his statement such a gossip usually asserts that its substance originated from an unidentified source which he considered reliable.

Rumor mongering borne of envy is usually of a personal nature. The repertoire of such slanderers includes character defamation, alleged scandal in the victim's family, accusation of foremen or forewomen of conducting improper relations with fellow employees, or the questioning of a person's ancestry. If repeated often enough, such slander is eventually believed and brings deep suffering and harm to the victim of such cruel persecution.

Revenge frequently prompts slanderous attacks on individuals or companies. The "I'll get even" feeling toward an individual may manifest itself in loud and open accusations and insinuations directed at the victim in the presence of others. The "I'll show them" attitude against the company takes similar forms. None of this can compare with the evil potentials of insiduous gossip campaigns which are so much harder to discover and to pin down.

The cure for rumor's ill effects does not usually lie in denial, which may actually serve to spread it. Rumor may be killed by ridicule or by simply ignoring it. Every effort should be made to trace the source. To confront the gossip with his victim and to make him apologize for the hurt he has inflicted may be an effective strategy.

If the slander has been directed against the company it may be helpful to request the rumor monger to put his statements or complaints on paper, and to stress that management should be acquainted with their substance because it is anxious to remedy any just cause for complaint. Usually, the offender is well aware that his statements cannot be substantiated or not even be put into words. He will dry up immediately.

In some instances it may be wise to mention that libel and slander are criminal offenses, dangerous not only to the victim but also to the offender. There is no universal remedy for malice because there is an infinite variety of motives and human quirks. Each case has to be considered individually.

Non-Aerating Filler

A GRAVITY filler featuring non-aerating valves is being offered by Horix Manufacturing Co., Corliss Station, Pittsburgh 4, Pa. The filling of liquid detergents and other high foaming liquids is facilitated by the elimination of

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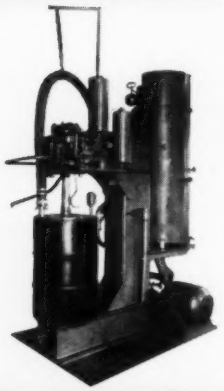
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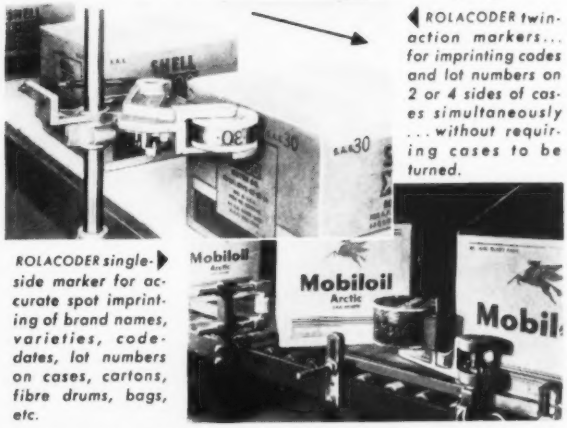
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trapped air, main source of foaming trouble. In addition the machine is said to be easy to operate, simple in construction and features individual container control.

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Fluoride Toothpaste Study

Results of a one-year controlled clinical study of 505 third and fourth grade school children in Bloomington, Minn., has revealed that those using a dentifrice containing stannous fluoride developed 35 percent less decay than those using toothpaste without the chemical.

The study was conducted by Dr. William A. Jordan, chief of the dental division of the Minnesota Department of Health. Findings were revealed in a paper by Dr. Jordan and his assistant Dr. John K. Peterson, published in the May issue of the *Journal of the American Dental Association*. One toothpaste, "Crest," manufactured by Procter & Gamble Co., Cincinnati, contained 0.4 per cent stannous fluoride, while the other dentifrice contained no stannous fluoride. Dr. Jordan described the results as "statistically significant." Copies of the report may be obtained from Dr. Lon W. Morrey, Editor, *Journal of American Dental Association*, 222 East Superior St., Chicago.

★

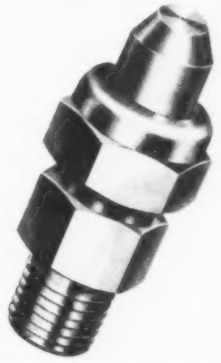
New Sanitizing Tablet

A new chlorine sanitizing tablet, for use in restaurants, hotels, hospitals and other institutions, was introduced recently by Chemical Products Research, Inc., Norfolk, Va.

Tradenamed "Sanitabs C," the tablet is formulated from a new chlorine-bearing compound and is said to dissolve easily in water, releasing the chlorine for use as a germicidal rinse. Each tablet releases sufficient chlorine to prepare a solution of 100 parts per million in two gallons of water. "Sanitabs C" are packed 100, two gram tablets per bottle; twelve bottles per case. Further information may be obtained from the company, 1034 West 45th St., Norfolk, Va.

New Spray Nozzle Line

Spraying Systems Co., Bellwood, Ill., recently introduced a new line of full cone spray nozzles



Spraying Systems new nozzle.

designed to atomize liquids by hydraulic pressure. Twelve different nozzles are offered in capacities ranging from 0.042 to 1.400 GPM at 20 p.s.i. Each nozzle is equipped with a strainer, and distribution spray angles run from 50 to 67 degrees. A data sheet listing complete information about the nozzles may be obtained from the company, 3217 Randolph St., Bellwood, Ill.

★

New D&O Price Catalog

A new 38-page, paper-bound price catalog containing product listings, market information and current prices of its line of essential oils and aromatic chemicals, was issued last month by Dodge & Olcott, Inc., New York. The $5\frac{1}{2} \times 8\frac{1}{2}$ inch booklet also contains complete information on other D&O products utilized in the chemical specialties and allied industries, including alcohols, balsams, aldehydes, concentrated flavors, oleoresins and certified colors. Copies of the catalog may be obtained from the company, 180 Varick St., New York 14.

★

New "Emcol" Emulsifier

A new emulsifier designed for formulating emulsifiable pesticide concentrates for use with liquid fertilizers, was announced recently by Emulsol Chemical Corp., Chicago. Tradenamed "Emcol H-C," the product is claimed to be an extension of "Emcols H-A" and "H-B," which have been in production for some time. Full details are available in Emulsol's technical bulletin #47, which may be obtained from the company, 65 East Wacker Dr., Chicago 1.

★

Consultants Listed

The 16th edition of "Consulting Service" was published recently by the Association of Consulting Chemists and Chemical Engineers, 50 East 41st Street, New York 17. Like its predecessors, the paperbound, 136 page booklet is divided into three main sections. Section 1 classifies 200 different activities supplying code numbers indicating the consultants specializing in each of the items. Section 2 describes the scope of each member laboratory's activities and qualifications. Section 3 lists members alphabetically and geographically. Copies of this useful guide to consulting services are available from the association at $1.00 each.

★

New Battelle Brochure

A new brochure describing its various industrial and commercial management studies, was issued recently by Battelle Memorial Institute, Columbus 1, O. The two-color, fully-illustrated booklet provides complete information on the laboratory's research projects in general, research, production, marketing and information management, plus product development, operations research and systems analysis, industrial economics and area development. In addition, the brochure lists 15 other fields of research in which Battelle is presently engaged. Copies of the literature may be obtained from the institute.

★

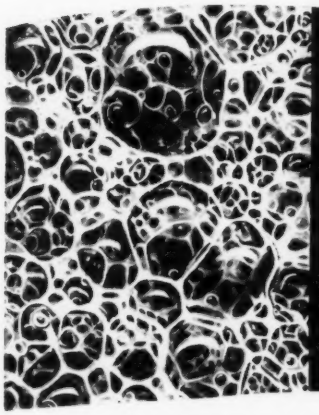
Calif. Maintenance Show

The third Western Plant Maintenance and Engineering Show and Conference was held at the Civic Auditorium, San Francisco, June 11-13, it was announced recently. Last held in Los Angeles in 1955, the show is expected to draw more than 8,000 western plant maintenance and engineering men.

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SOAP PLANT *Observer*

By John W. McCutcheon

QUALITY control in general was the subject of last month's column. Analytical control is centered around the technical director and/or chief chemist of an organization. The routine laboratory of a plant usually takes care of chemical control and may also handle certain aspects of physical control. The checking of cartons, for example, may be one of the chief chemist's duties. He may do no more than check their color by visual comparison of the last shipment with the previous one. Or he may have to run specific tests for cracking characteristics on bending, fadometer tests, Mullen tests for strength, dimension tests and others. All this is strictly non-chemical, yet the chief chemist may be responsible for all these facets of control.

By contrast, the chief chemist may not be responsible for a number of matters which one would expect to be in his hands. In the kettle room of one plant visited by the writer, he found the soap alkali tests were run by the operators. Frequently the soap boiler has his own little testing laboratory, and the glycerine treat operator may run his own pH values on lye treats.

The system of quality control varies widely from plant to plant. Accordingly the role of the chief chemists ranges all the way from "bottle washer" to executive. Normally the chief chemist runs a control laboratory and is responsible for all quality control testing in the plant. He reports to a plant superintendent, technical director or manager.

One of the chief chemist's main duties is the keeping of records. Obviously an accountant must list checks going out and remittances coming in. Yet, some



chief chemists try to manage without doing the equivalent in their departments. When asked to show the analysis of last month's car of caustic, they will look dazed, take half an hour to plow through a mass of loose notes, and wind up by saying that the foreman forgot to sample the car because there was something wrong with it!

The lot of the chief chemist is not an easy one. The foremen often think that he is trying to get them fired; the superintendent may suspect him of collusion with the foremen; and chemical analysts frequently look upon him as an unreasonable dictator who demands perfection from second class equipment. In addition he may be exposed to ridiculous demands. A plant manager of our acquaintance was unduly nervous about mistakes in his factory. Whenever he discussed a control problem with his chief chemist he would conclude by saying: "Now Joe, we don't want to have this happen again, do we? Would you please run this test yourself." Within a few months "Joe" was running all tests while his staff stood around and watched him.

The chief chemist should know the source and type of the samples entering the laboratory, test methods used and results that should be obtained. This is indispensable to the proper performance of the chief chemist's functions. He must be thoroughly conversant with the process and with control methods. To acquire this information he is well advised to take a periodic walk through the plant. Test results should be tabulated and similar samples grouped together so that any variations between them are apparent at a glance.

He should have exact knowledge of each test procedure and should be able to run the test with considerable skill and without having recourse to any written material except in special cases. Only if he is thus fully in command of his subject can he expect to oversee the work carried on in his laboratory and to judge at a glance whether it is proceeding correctly and with dispatch.

The chief chemist should be better informed about the chemistry of each test than any of his aides. To this end he must read background data, confer with his colleagues, and devote himself to private research of his own. He should run each new test introduced into the laboratory and then teach it to his co-workers by example. For good team work he must study his men, learn their individual qualities and faults, and protect them when they err by taking the blame upon himself. (To be continued)

* * *

IN last month's column we noted the launching of Lever's synthetic toilet bar in the New York area. Recent developments in the toilet bar field in general show a strange tendency to "improve" upon the bar of soap. A little sequestering agent is added, a touch of synthetic to stop bath tub ring, a foaming agent here and something else there. And what is the result? Something definitely inferior to the old time bar of plain soap. While the writer firmly believes that synthetics will gain great

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importance in the toilet bar field within a few years, he is equally convinced that addition of a detergent of the types in current use does not provide the answer. This trend will surely cut the demand for ordinary toilet soap bars and the writer is wondering whether the soapers are purposely preparing the public for mass conversion to synthetics.

The present toilet bar picture reminds the writer of what happened to shaving soap some years ago. There was a time when shaving soap really did a good job. Perhaps the manufacturers of razor blades were quality conscious and helped maintain the standard. Then came taxation, and a 35 cent tube of cream carried a 17 cent tax load.

The manufacturer had to develop a formula, test it, buy the materials, make the cream, package it in an attractive lithographed tube, and advertise it to make it sell. If successful he might make a few pennies per tube, seven cents at the most, while the tax authorities got 17 cents. Can anybody really blame the manufacturer for trying to cut his production costs? A little sugar may be added where glycerine once was, the perfume is cut by half and the shaving public turns to electric razors. Such is progress! Is the toilet soap business traveling the same road?

New Ultrasonic Emulsifying Equipment

A NEW line of ultrasonic emulsifiers was demonstrated to the technical press last month by Sonic Engineering Corp., Stamford, Conn. Suggested for application in the surfactant, insecticide, polishes, shampoo, and other specialties fields, the equipment is said to work on a novel principle, developed in England by E. C. Cottell, now president of Sonic Engineering. The fluid dynamic forces of the liquids themselves are used to produce the sound waves, instead of ultrasonic energy produced outside the liquids. All energy used in emulsification by this principle is developed and used right in the liquids.

Key item of the new line is the "Rapisonic", consisting of a gear type pump and ultrasonic head driven by a two hp motor. The machine processes 350 gallons per hour, handles emulsions of high and low viscosity, does not require premixing. No air is incorporated during sonification, which is important for the stability of the final product. The "Rapisonic" can be bolted or clamped to any firm support near the mixing vessel, according to the manufacturer. Sonic's automatic plant for continuous production of emulsions is designated "Autosonic" and incorporates the "Rapisonic" emulsifying unit.

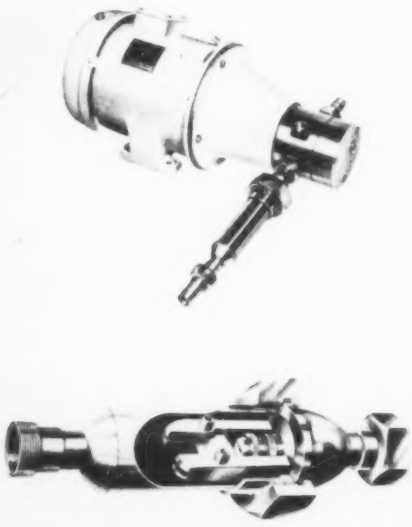
While the "Rapisonic" is designed to handle liquid/liquid emulsions, the "Dispersonic" unit processes dispersions of powders in liquids or emulsions of an abrasive nature. Equipped with the same type ultrasonic head, the machine features a continuous cavity pump, and a three hp motor. Its capacity is 300 gallons per hour.

A laboratory or pilot plant sonifying unit called "Minisonic" also utilizes the "Rapisonic" principle of operation. However, this is a batch type machine with a transparent hose running from the ultrasonic head to the funnel reservoir, permitting observation of the emulsification process.

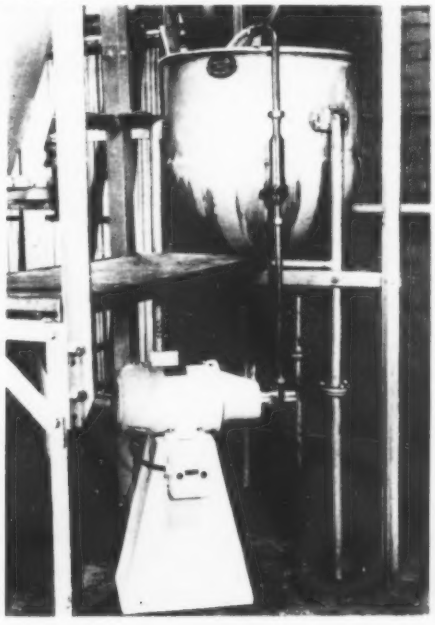
Economy in space and ease of maintenance are claimed for the whole line of equipment. Sonic

(*Turn to Page* 191)

Two essential components of new ultrasonic emulsifier: Top "Rapisonic" unit; bottom, ultrasonic head.



Installation for emulsifying ingredients for an insecticide. Fluid dynamic forces of liquids are used to produce sound waves.



"Dispersonic" unit processes dispersions of powders in liquids or emulsions of an abrasive nature.



Continuous Soap Plants



Photograph of a MAZZONI soap plant automatically producing one ton of household or toilet soap per hour. "S" is the silo for the storage of the dried soap rods. From the silo the rods are then passed through a line of finishing machinery for milled soap cakes.

• • •

★ The Vacuum Process, over all other old and new cooling methods, enables you to make use of the water at the temperature available at any factory as it is possible to cool the soap at such a temperature because of the vacuum and the peculiar devices provided — without resorting to expensive cooling equipment—so that its consistency is satisfactory no matter what the cooling water temperature is.

★ Our manufacturing range also includes: plants for continuously sulphonating and spray-drying synthetic detergents in the form of hollow beads—continuous fat splitting and fatty acid saponification plants — continuous glycerine recovery and refining plants.

Advantages of the MAZZONI Process:

★ Small plant space; only one operator needed.
★ Saves 70% in steam, 50% labor, 40% electric power.
★ Operates at low temperatures, avoiding deterioration of soap.
★ Vacuum process gives better toilet soaps. Deodorizing effect reduces perfume needs. Smoother, grit-free cakes which wash off evenly. Improved lathering.
★ Transparent toilet and laundry soaps without addition of glycerine, alcohol, sugar, and any other additives.
★ Complete installations (mixers, mills, plodders, cutters and stampers) for milled toilet soap and soap flakes.
★ Since 1945 more than 130 plants have been installed in different countries of the world.
★ Laundry soaps, pure from 62% fatty acids upwards or filled from 35 to 62% fatty acids, ready for pressing and immediate packing without slabbing, cutting, etc. Automatic perfuming device included.
★ Suitable for adaptation in any soap factory, —a compact, low-cost vacuum process, continuous from neat soap to pressing and wrapping.
★ Soaps showing a beta phase content from a minimum of 75 percent to a maximum of 100 percent. Analyzed in the laboratories of Procter & Gamble Company, Cincinnati. Analysis is given with their permission.
★ Plants for outputs of one-quarter-ton, half-ton, one ton, two tons, three tons or higher per hour.


MIRA LANZA

For further detailed information, write to

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Cable address: Cosmazzoni, Busto Arsizio

News...

PEOPLE · PRODUCTS · PLANTS

Lever Acquires "All"

* * *

Soap Sales on Increase

* * *

New Purex Executives

* * *

Velsicol Names Schumaker



Newest entry in the liquid detergent derby is "Fels," a light duty product of Fels & Co., Philadelphia. Canco 12-ounce can has aluminum ends and polyethylene plastic pour spout with rigid plastic cap. Can is over-all pink, with traditional green fishtail design for reverse pink trade name.



Perfumer's Notes

ON A FEW VERONA SPECIALTIES

ISO-BUTYL FURYL PROPIONATE — A top note of freshness and fine aroma for perfumes. Also used in flavors as an addition to Pineapple, because of its characteristic aroma and freshness.

ALPHA-METHYL CINNAMIC ALDEHYDE — A base for synthetic Oil of Cassia, to which it adds softness and stability.

CYCLAMAL® — Stable in perfumery. Will not discolor or irritate in cosmetics and soaps. Used up to 5% in perfume bouquets for its Lily of the Valley-Muguet character. The exceptional purity of Verona Cyclamal makes it outstanding for its clean, fresh aroma, free from fuzzy by-notes.

FLORANOL — A chemical with a soft, slightly fruity Rose note, but with considerable power and stability.

Write for further information.

Investigate these additional VERONA specialties:

CYCLAMAL CYCLO ACETAL • DIMETHYL OCTANOL SPECIAL

RESEDALIA • VERONOL • ROSANOL

Sole representative in the United States for J. & E. Sozio, Grasse, France.

Resinoides Essential Oils Natural Absolutes

Write us for our complete list of specialties and other aromatic chemicals.

PRODUCTS BUILD SALES FOR *Your* PRODUCTS

Aromatics Division

VERONA CHEMICAL COMPANY

Plant and Main Office: 26 Verona Avenue, Newark, N. J.
1210 Rosedale Avenue, Chicago, Ill.

News

Babbitt Elects Shincel

Harold H. Shincel has been elected to the board of directors of B. T. Babbitt, Inc., New York, it



Harold H. Shincel

was announced recently. Mr. Shincel is president and board member of Consolidated Metal Products Corp., Albany, N. Y.

★

Moss Soap Moves

Moss Soap Co., manufacturers and distributors of soaps and sanitary supplies, have moved to a new plant at 1157 N.W. 22nd St., Miami, Florida. The company was formerly located at Hialeah, Florida. The new plant is a truck-level building with rail siding. The firm has installed a new chemical and soap blender of 5,000 lbs. capacity which it states is the largest of this type in the state. M. Moss is president.

★

Bruce Earnings Lower

E. L. Bruce Co., Memphis, Tenn., recently reported a decline in sales and earnings in the nine months ended Mar. 31. Net sales for that period totaled $21,991,277, as compared with $26,592,643 in the corresponding period of the preceding year. Net income total for the nine-month period was $340,770, equal to share earnings of $1.06. This compared to $1,099,853 and $3.46 in the similar period a year earlier.

In the first quarter of 1957, Bruce reported sales of $6,940,232, as compared with $8,712,702, in the first quarter a year ago. Net income fell to $13,032, or 13 cents per common share, from $276,674, or 87 cents per share, for the similar three months last year.

★

New Beach Detergent

Beach Soap Co., Lawrence, Mass., recently introduced a new non-ionic, heavy duty, liquid detergent, designed for use in commercial and institutional laundering. Called "Lydet," the product comes in five-gallon pails and 30 and 55 gallon drums.

★

Wolfe Forms New Firm

Formation of Harry Deane Wolfe and Associates, 35 Harris Park, Red Bank, N. J., a consulting firm, was announced recently by Harry Deane Wolfe, founder and head of the new concern. For the past 15 years, Mr. Wolfe had been market research director of Colgate-Palmolive Co., New York City. According to Mr. Wolfe, the new firm will serve as consultants in advertising, product development, sales management and other phases of market development.

Harry Deane Wolfe



Velsicol Names Schumaker

Appointment of George K. Schumaker as northeastern regional manager of the agricultural chem-



George K. Schumaker

icals division of Velsicol Chemical Corp., Chicago, was announced recently by Roger W. Roth, division sales manager. Mr. Schumaker joined Velsicol in 1951 as sales representative in the northeast. In his new post he will be responsible for sales of the firm's products in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, New Jersey, Pennsylvania, Vermont, northern Virginia and the District of Columbia.

★

Shulton Names Edmunds

Shulton, Inc., Clifton, N. J., has named Calvin A. Edmunds as chemist in its analytical and control laboratory, it was announced recently by Charles Kline, scientific director. Mr. Edmunds previously was a development chemist for Product Developers, Inc., Mendham, N. J.

★

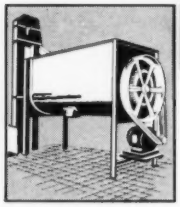
ASR New Firm Name

Stockholders of American Safety Razor Corp., Staunton, Va., last month voted to change the firm's corporate name to ASR Products Corp., effective July 1. ASR manufactures soaps, cosmetics and a variety of shaving products and

You Can Depend On

COLGATE-PALMOLIVE For QUALITY INGREDIENTS

C.P. Products of Special Interest to Chemical-Specialty Manufacturers Include:



Mentor Beads

An Alkyl Aryl Sulphonate Synthetic Detergent in Spray Form. For Use in Industrial Cleaning, Processing, Compounding.

Unaffected by hard water, acids, alkalies or metal salts, Mentor Beads are quick dissolving. They have excellent white color and are practically free of odor and unreacted organic matter. Ideal for wetting, penetration, dispersing, cleaning or foaming in a water solution.

Recommended for use in auto and truck cleaners, floor and wall wash compounds, agricultural sprays and insecticides, bubble bath, rug and upholstery cleaning preparations, laundering compounds, shoe polish, window cleaners. Ideal for the manufacture of other products in which sudsing, detergency, emulsification and wetting-out properties are required. Can be colored or perfumed as desired.

Packed 40 lbs. in 5-ply paper bags.



Arctic Syntex 036

A 100% Liquid Non-Ionic Surface Active Agent

The use of Arctic Syntex 036 is indicated where an economical and efficient wetting, penetrating, emulsifying and cleaning agent is desired.

Compatible with anionic, cationic and other non-ionic chemical substances, Arctic Syntex 036 is not inactivated by acids, alkalies, oxidizing or reducing agents. Nor, by most organic ions.

Stable for long periods at high temperatures, Arctic Syntex 036 will not form salts with metal ions. Its powerful wetting, penetrating and detergent properties make it effective at low concentrations. It is stable and effective in both hard and soft water. Recommended for use in compounding agricultural sprays, auto and truck wash, textile auxiliaries, cosmetic preparations, floor and wall cleaners, metal cleaners and laundering products.

Now, and in the future, you can always look to Colgate-Palmolive as a source of quality soaps and synthetic detergents for use in the manufacture of your products.

Write today to our Industrial Department for samples and technical data. There is *no cost* or obligation! Or, get in touch with your local Colgate-Palmolive Industrial representative.

COLGATE-PALMOLIVE CO. CP QUALITY PRODUCTS SINCE 1806

Colgate-Palmolive Company
300 Park Avenue, New York 22, N. Y.

maintains plants in Staunton, Chicago, Hoboken, N. J., Montreal, and Glasgow, Scotland. According to the announcement, the company's recent expansion and diversification of product lines occasioned the name change. ASR was founded in 1919.

★

In Gov't Research Post

Robert W. Cairns, director of research for Hercules Powder Co., Wilmington, Del., has been appointed chairman of the advisory panel on general sciences of the Office of the Assistant Secretary of Defense for Research and Development, it was announced recently. According to the Department of Defense, the panel was established "to insure that the nation's best scientific talents are applied to the planning and prosecution of military research and development programs on general sciences." Dr. Cairns previously had served as Deputy Assistant Secretary of Defense while on leave of absence from Hercules in 1953 and 1954.

Babbitt Sales Higher

B. T. Babbitt, Inc., New York, recently reported an increase in sales and a decline in income in the first quarter of 1957. Net sales for the three months ended Mar. 31 totaled $5,215,218 as compared with $4,465,154 in the corresponding period of 1956. A net loss of $19,127 was reported in the initial three months of 1957. This compared with a net income of $152,197, equal to share earnings of 15 cents, in the similar quarter of the previous year.

★

Borax Appoints Ford

Pacific Coast Borax Co. Division of United States Borax & Chemical Corp., Los Angeles, recently announced appointment of Jay B. Ford as assistant general manager. Mr. Ford formerly served with United States Potash Division as assistant treasurer and assistant general manager. According to J. F. Corkill, division vice-president and general manager, Mr. Ford will make his headquarters in New York and will be in charge of administrative and executive functions within the division.

★

GE Appoints Morray

Appointment of K. Jerry Morray as sales manager in Cleveland for the silicone products department of General Electric Co., Waterford, N. Y., was announced recently by J. T. Coe, department sales manager. Mr. Morray formerly served as a sales and product planning specialist in the chemical materials department, Pittsfield, Mass. He previously had been associated with the Barrett Division of Allied Chemical & Dye Corp., New York, as technical sales representative.

★

P&G Elects McCracken

C. Kenneth McCracken has been elected a vice-president of Procter & Gamble Co., Cincinnati, it was announced recently by the board of directors. Mr. McCracken will continue to serve as controller, a post he has held since July, 1955. He joined the company in 1926.

Purex Names Three

Purex Corp., Ltd., South Gate, Calif., has named Robert C. Ferris as chemical and product research director of its newly reorganized marketing division, it was announced last month by Craig Davidson, vice-president of marketing. Other division appointments include Jack Northrup, director of marketing research and public relations and Leslie Bruce, Jr., director of advertising and promotion.

Dr. Ferris, who came to Purex in 1951, has been director of research since 1952. Mr. Northrup, with the company since 1950, previously was brand advertising manager, while Mr. Bruce, also formerly a brand advertising manager, joined Purex in 1954. Prior to that he had served with New York advertising agencies as account executive on the Colgate-Palmolive account and as representative on Procter & Gamble's "Tide" account.

According to Mr. Davidson the division was reorganized with a view to better correlation of product research, advertising, promotion, marketing research and public relations for the company's soaps, detergents and allied products.

Robert C. Ferris

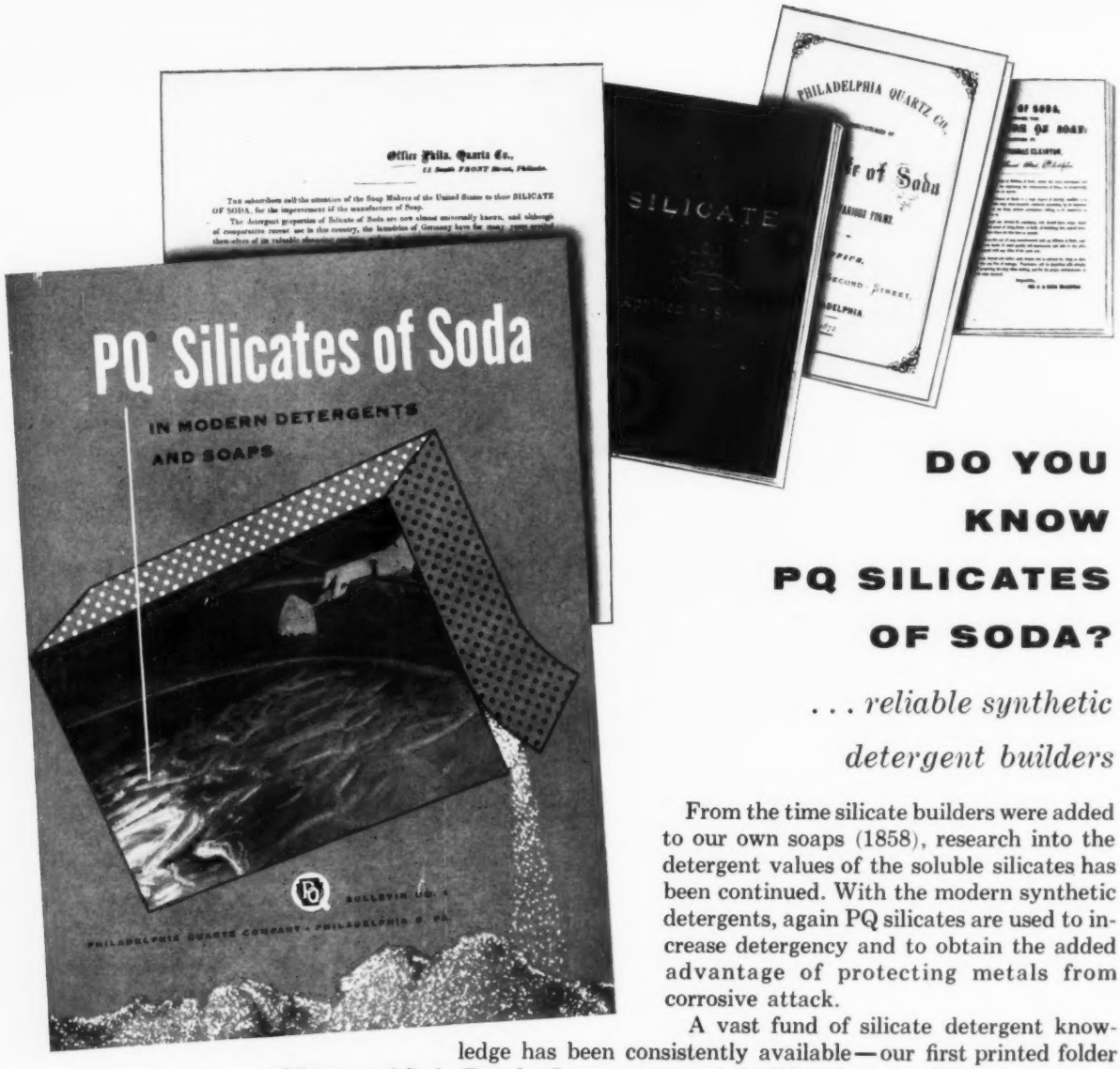


Jack Northrup



Leslie C. Bruce





DO YOU KNOW PQ SILICATES OF SODA?

. . . reliable synthetic detergent builders

From the time silicate builders were added to our own soaps (1858), research into the detergent values of the soluble silicates has been continued. With the modern synthetic detergents, again PQ silicates are used to increase detergency and to obtain the added advantage of protecting metals from corrosive attack.

A vast fund of silicate detergent knowledge has been consistently available—our first printed folder "Silicates of Soda For the Improvement of the Manufacture of Soap" appeared in 1864. Do you have copies of current PQ publications on soluble silicates in soap and modern detergents? Check any of the following which is of interest to you.

- The Value of Silicate of Soda as a Detergent
- Phase Study of Commercial Soap-Alkaline Electrolyte-Water Systems
- A Phase Study of Sodium Palmitate-Alkaline Electrolyte Water Systems
- Silicates in Soaps
- Solubility Study of an Aqueous Potassium Laurate-Potassium Silicate System
- Potassium Silicates in Soaps
- Silicate of Soda as a Detergent
- PQ Silicates of Soda in Soaps and Modern Detergents
- Suspending Action of Alkaline Electrolytes on Ilmenite Black
- Solubilization and Cosolvent Effect with Sodium Stearate
- Alkyl Aryl Sulfonate Builder Mixtures
- Viscosity of Potassium Soap-Potassium Silicate Mixtures
- Viscosities and Solubilities of Synthetic Detergent Mixtures Containing Soluble Silicates
- Silicates as Corrosion Inhibitors in Synthetic Detergent Mixtures

METSO

SILICATE OF SODA

METSO DETERGENTS

PHILADELPHIA QUARTZ COMPANY

1152 Public Ledger Building, Philadelphia 6, Pa.

Associates: *Philadelphia Quartz Co. of Calif., Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto, Canada*

Distributors in over 65 cities

TRADEMARKS REG. U.S. PAT. OFF.

PQ WORKS: ANDERSON, IND., BALTIMORE, MD., BUFFALO, N. Y., CHESTER, PA., JEFFERSONVILLE, IND., KANSAS CITY, KANS., RAHWAY, N. J., ST. LOUIS, MO., UTICA, ILL.

Velsicol Appoints Two

Robert O. Sauer, vice-president of research and development of Velsicol Chemical Corp., Chicago, last month announced the appointments of Elwood W. Phares and John G. Kronseder as manager of marketing and commercial development and assistant director of process development, respectively.



Elwood W. Phares

Mr. Phares had been engaged in sales development work since joining the company in January, 1956. Mr. Kronseder, formerly chemical engineering manager for International Minerals and Chemical Corp., Chicago, will headquarter at the firm's main laboratory in Chicago.

★

C. Frank Sims Dies

C. Frank Sims, former sales manager of the New York division of Virginia-Carolina Chemical Corp., Richmond, Va., died May 7 in Muhlenberg Hospital, Plainfield, N. J. Mr. Sims had retired in 1938. For the past 38 years he had resided in Westfield, N. J. Surviving are his widow, Natalie; a son William H. Sims of Glenview, Ill.; and a daughter, Mrs. Natalie S. Kell of West Newton, Mass.

John G. Kronseder



★

Lever Shifts Auciello

Joseph Auciello, Jr., has been named merchandising manager at the Pittsburgh, Pa., office of Lever Brothers Co., New York, it was announced recently. Mr. Auciello formerly held a similar position at the firm's Charleston, W. Va., branch. He will be succeeded at Charleston by John Moren, who previously had been assigned to Lever's Cincinnati office.

★

Brit. Gov't Syndet Group

A standing technical committee on synthetic detergents was appointed recently by the British Ministry of Housing and Local Government in consultation with the Secretary of State for Scotland. The committee has the following terms of reference: "To keep under review the difficulties or risks of difficulty, arising in sewage works, rivers and water supply as a result of the use of synthetic detergents; to encourage and assist the coordination of, appropriate research by manufacturers of detergents and intermediate materials, and by suitable public bodies, into methods by which those difficulties, or risks of difficulty, could without undue burden on public funds be avoided or overcome; and to report progress at least once a year".

Under the chairmanship of H. W. Cremer, consulting chemical engineer the committee is composed of 13 members including representatives of national and local government, and research executives of Thomas Hedley & Co., Monsanto Chemicals, Ltd.; Unilever, Ltd.; Shell Chemicals, Ltd.; and Brewing Industry Research Foundation.

Colgate Appoints Two

Appointments of Thomas S. Carroll and Irvin W. Hoff as marketing managers of the household products and toilet articles divisions, respectively, were announced recently by Colgate-Palmolive Co., New York.



Thomas S. Carroll

In his new capacity, Mr. Carroll will be responsible to William T. Miller, division vice-president, and will direct advertising, sales promotion, packaging, media, and all other aspects of marketing, other than sales. He formerly was brand advertising manager.

Mr. Hoff, advertising director since June, 1952, will have duties similar to those of Mr. Carroll and will be responsible to C. G. Grace, division vice-president. Mr. Hoff joined C-P as assistant advertising manager in 1949. Previously he was sales and advertising manager of Block Drug Co., and

Irvin W. Hoff





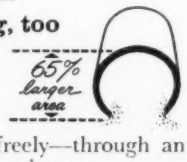
Now . . . get flake caustic soda in this new easy-to-empty drum without paying a premium

Ever watch your operators empty a *standard* caustic drum?

If so, you can see at a glance why Hooker flake caustic soda in this new drum is easier, faster, and safer to work with.

A man can shovel caustic soda out of this new drum almost twice as fast, because the opening is *18 inches across*. That's four inches wider than on standard drums.

Easier pouring, too



When your men invert the new 18-inch drum, caustic soda flows out much more freely—through an opening 65% bigger in area.

Caustic soda can't pile up around the edges of the hole, as it does with conventional drums. There's much less need to shake and jiggle the drum to empty it, and less caustic is wasted.

At no extra cost

Best of all, *you pay no premium for this better drum.*

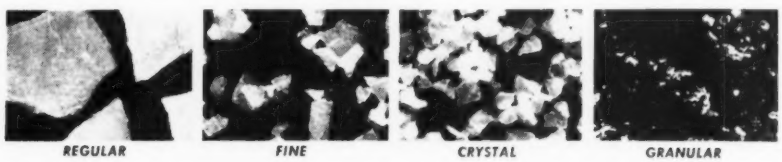
If you *haven't* had the speed and safety of a large-opening drum, here's your chance to try it without risking a penny. Just specify Hooker flake caustic soda—in the 18-inch-opening drum—on your next order.

Firm, clean flakes

Your production men will find Hooker caustic soda promotes *consistent processing* because the firm, clean flakes are uniform in thickness, carefully sized, and nondusting.

Thanks to extra-careful flaking and screening, Hooker flake caustic resists breakdown in transit, arrives at your plant the same size it leaves Hooker.

You have a choice of four sizes, all shown here actual size. Steel drums of *Regular* flake weigh 400 lbs.; other sizes, 450 lbs. net. When ordering, please specify the flake size best for your operations.



HOOKER ELECTROCHEMICAL COMPANY
106 UNION STREET, NIAGARA FALLS, N. Y.

NIAGARA FALLS • TACOMA • MONTAGUE, MICH. • NEW YORK • CHICAGO • LOS ANGELES

HOOKER CHEMICALS PLASTICS

product director of Johnson & Johnson.

★

Fairhurst to Verley

William S. Fairhurst has been appointed sales representative for Albert Verley & Co., Linden, N. J., it was announced recently by Edward J. Strobel, president. Mr. Fairhurst will headquarter at Verley's New York office and represent the firm's complete line of essential oils, aromatic chemicals and flavors.

Having served with Verley for four years as a laboratory assistant, Mr. Fairhurst left the company in 1937 to join the newly-formed Tombarel Products Corp., New York. He later went with Monteil Germaine Cosmetiques Corp. and Fleuroma, Inc., both of New York.

★

Montrose Earnings Report

Montrose Chemical Co., Newark, N. J., recently reported net sales of $3,023,680 for the nine month-period ended Feb. 28. Net income for this period amounted to $496,999, equal to share earnings of 52 cents.

In the three months ended Feb. 28, Montrose reported net sales of $859,746. Net income in this period amounted to $11,351 equal to share earnings of one cent. Comparison figures for the two periods were not available.

★

Max Factor Names Politi

Election of Menache Politi as a vice-president of Max Factor & Co., Hollywood, Calif., was announced recently by Davis Factor, board chairman. The board of directors also elected Sidney Factor and Alfred Firestein vice-presidents.

Mr. Politi had been director of operations for Europe and the Near East since 1948. He is also an assistant manager of the export division. Mr. Factor, a son of the late Max Factor, founder of the company, is an administrative and sales-area supervisor of the Latin American and Canadian markets. Mr. Firestein heads the company's pharmaceutical and specialties division. He is a grandson of the founder and a son of the executive vice-president.

Osborne New Olin President

Stanley de J. Osborne has been elected president and chief executive officer of Olin Mathieson



Stanley de J. Osborne

Chemical Corp., Baltimore, it was announced recently. He succeeds Thomas S. Nichols, president since 1954, who was named chairman of the board, succeeding John M. Olin.

Mr. Olin now becomes chairman of the financial and operating policy committee and will continue to serve as chairman of the executive committee. Mr. Olin was elected chairman of the board and of the executive committee when the company was organized three years ago after the merger of Olin Industries, Inc., and Mathieson Chemical Corp. Prior to that he had been chairman and president of Olin Industries.

Mr. Osborne had been executive vice-president in charge of the

Thomas S. Nichols



company's foreign operations since 1954. Last year he assumed additional responsibilities as vice-president for finance. Mr. Nichols was elected president of Mathieson Chemical Corp. in 1945 at the age of 38. Two months later he became board chairman as well. He was named president of the united organization immediately after the merger in 1954.

Mr. Olin succeeds John W. Hanes as finance committee chairman. Mr. Hanes, who had held the post since the company was formed, remains as a director and consultant and will continue as a member of the finance committee.

★

Kelite Names Bowes

Vincent E. Bowes has been appointed petroleum service manager of Kelite Corp., Berkeley, N.J., it was announced recently. In his new post, Mr. Bowes will be responsible for the development and coordination of Kelite's sales of industrial chemicals to the petroleum industry. Mr. Bowes previously had been associated with Oakite Products, Inc., New York, as manager of its petroleum service division.

★

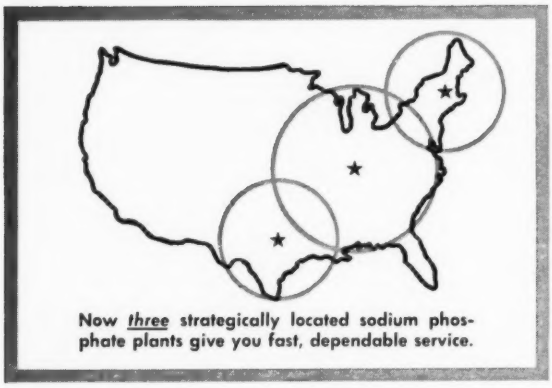
PCA Elects Scharwachter

Albert Scharwachter, vice-president of Arizona Chemical Co., New York, was elected president of the Pulp Chemicals Association at the organization's annual meeting held recently at the Savoy-Plaza Hotel, New York. It was disclosed at the meeting that available whole (crude) tall oil supplies reached a new high in 1956 of over 300,000 tons, exceeding the previous year's record high by about five per cent.

Other officers elected include: R. J. Spitz, Heyden Newport Chemical Corp. vice-president; A. B. Doran, Union Bag-Camp Paper Corp., New York, chairman of the tall oil division; T. C. Clarkson, Crossett Chemical Co., Crossett Ark., vice-chairman of the tall oil division and sulphate turpentine division; and L. A. Radeker, Champion Paper & Fibre Co., Hamilton, O., chairman of the sulfate turpentine division.



SHEA SODIUM PHOSPHATES
"fit the formula" for <u>both</u> products!



Now *three* strategically located sodium phosphate plants give you fast, dependable service.

Both of these drums contain the same *weight* of cleaning compound — because some products are light and fluffy — others are dense, concentrated. Not so long ago, the manufacturer of dry-mixed cleaning compounds had no choice when it came to the important sodium phosphates in his formula. All phosphates were made in the conventional, dense form.

Then Shea pioneered spray-dried sodium phosphates — and the light, air filled beads were an immediate hit. Of course, Shea also makes dense phosphates. Important to detergent manufacturers is that Shea, and Shea only, offers both high and low bulk-density sodium phosphates . . . of unquestioned quality . . . in unfailing supply.

Sodium Tripolyphosphate
Tetrasodium Pyrophosphate
Disodium Phosphate
Trisodium Phosphate
Sodium Hexametaphosphate
Dicalcium Phosphate
Phosphoric Acids, Food and N. F. Grades
Phosphatic Feed Solutions
Organo Phosphorus Compounds
Elemental Phosphorus

SHEA CHEMICAL CORPORATION

P. O. Box 326
Jeffersonville, Indiana
Phone: BUtler 2-1381

114 East 40th St.
New York 16, New York
Phone: OXford 7-4553

Article Brings Danish Soaper to U. S.

AN article published in SOAP played a major part in bringing to this country a visitor from Denmark. Albert J. Burner's paper on Floor Maintenance which appeared in our January issue resulted in Mr. Henning Gorm Sorensen of Copenhagen calling on the author in person to find out more about American methods of floor maintenance in general and about resin finishes in particular. Mr. Sorensen is assistant manager of A/S Kemithor, manufacturer of industrial and institutional soaps, detergents, and related products.

In addition to calling on various friends in the industry and on trade associations located in New York, Mr. Sorensen visited during his two weeks' stay in this country Chicago, Boston, Syracuse and a number of other centers. He left for home on May 18.

Mr. Sorensen's firm sells directly to hospitals, institutions, commercial laundries, food and dairy plants. The one million dollar a year business uses jobbers' services only to sell two million kilos of sodium hypochlorite. A few years ago the company sold its hypochlorite manufacturing facilities to a competitor and got the competitor's exclusive agency in return.

Approximately half the soaps and detergents sold on the Danish market are made by Lever Bros. Procter & Gamble Co. is not represented in Denmark, we are told. Liquids were introduced and found acceptance in the household market prior to the powder form detergents. Today the powder and bead detergent field is dominated by "Valo," a blue, built, heavy duty detergent by Lever. Some "Fab" is sold in the Danish market, according to our visitor.

The belated arrival of the powder and bead form products may be due to the Henkel patents, taken out in Denmark by the German soap giant just before the war. Lever and Henkel were involved in a lengthy infringement suit which was settled by agreement only comparatively recently. Henkel is currently entering the Danish field with a solid called "Pre."

In the floor products market S. C. Johnson & Son holds a prominent place. Resin finishes are not yet established, although Johnson recently introduced such a product without expressly identifying it as such.

Fear of being considered a monopoly and possibly being nationalized prevents manufacturers from aspiring at more than 50 per cent of any one market.

Cooperatives play a major part in the establishment of self-service stores, which in turn stimulate the development of packaging technics. However, the small size of the market and high unit cost of packages is a severe handicap. The growth of pressure packaging has lagged in Denmark for this same reason.

There is a Danish law which prohibits any retailer from setting up multiple stores in one community, but a manufacturer can do so, in his own line. This law was created to keep dime store chains out of the country but has created a multiplicity of small industries.

★

SCC Sponsors Europe Tour

Leading executives and chemists of the American cosmetic industry will represent the United States at technical symposiums in England and Europe this summer, it was announced recently. Under the sponsorship of the Society of Cosmetic Chemists, Americans will attend seminars in London, Aug. 7-9; in Geneva, Aug. 13; and in Paris, Aug. 16.

Featured speakers at the London symposium will include Dr. Stephen Rothman, American dermatologist, and Dr. William Montagna of Brown University. Dr. Montagna will also act as chairman of the International Conference at the Royal Society of Medicine, which will be held in conjunction with the technical meetings. Admission to the London conference will be limited to ticket holders only.

According to the SCC, special group rates, which include chartered airplane service from New York, are available to representatives attending all three conferences. The group rate costs approximately $700 and covers all transportation, hotel accommodations, gratuities, and breakfasts and lunches. Sightseeing, which will not conflict with meetings, is also available at a slightly higher rate. The tour also includes visits to cosmetic plants in England, France and Switzerland. Tentative plans call for departure from New York on Sunday, Aug. 4, and return to New York, Aug. 16

Arrangements for the trip are being handled for the SCC by the World Travel Plan Corp., 125 East 50th St., New York 22. Reservations may be obtained by contacting this organization. The minimum number of reservations to guarantee the trip already has been received.

★

New Tall Oil Pamphlet

A new pamphlet providing information on the characteristics, specifications and uses of tall oil, was issued recently by Welch, Holme & Clark Co., 1 Hudson St., New York 13. Copies of the folder may be obtained from the company.

★

Shulton Sales Increase

Shulton, Inc., Clifton, N. J., recently reported a sharp increase in sales and earnings in the first quarter of 1957. Net sales for the three months ended Mar. 31 totaled $5,697,057, an increase of 29 per cent from the $4,430,473 in the corresponding period of the previous year. Net income increased 41 per cent to $479,865, equal to share earnings of 39 cents, from $339,610 and 27 cents in the first quarter of 1956.

SET SIGHT on your AEROSOL POTENTIAL...



. . . . made even more promising by the use of fragrance materials specially created to lend heavenly, sales-compelling odor appeal to your aerosol packaged product. BUT, bear in mind, there's a lot more to this business of choosing the right aerosol fragrance than meets the eye. *Compatibility* of ingredients is a matter of design—not chance; *appropriateness* – a matter of experience, judgment and good taste. In fact, your choice of fragrance could well be the big difference between limited acceptance and a really stellar sales performance for your aerosol product. So . . . make no mistake in choosing the fragrance for that important job. Make no mistake in choosing the supplier best qualified to develop that fragrance for you.

—ALWAYS DEPENDABLE—
ODORANTS and DEODORANTS
for INDUSTRIAL and
TECHNICAL USE

▲

MADE-TO-ORDER FRAGRANCES
for PERFUMES, TOILETRIES
and COSMETICS

▲

SUPPLIERS of
AROMATIC CHEMICALS,
BASIC PERFUME and
FLAVOR RAW MATERIALS

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Brothers, Inc.

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES *and* *STOCKS: *Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania. San Francisco, California, St. Louis, Missouri, Montreal and *Toronto, Canada and *Mexico, D. F. FACTORY: *Clifton, N. J.*

Hooker Elects Wilkin

Robert E. Wilkin has been elected a director of Hooker Chemicals Ltd., North Vancouver, B.C.,



Robert E. Wilkin

it was announced recently by R. Lindley Murray, president. He succeeds J. H. Babcock, who resigned from the board upon his retirement from Hooker Electrochemical Corp., Niagara Falls, N. Y. Mr. Wilkin also is a director and vice-president of sales of Hooker Electrochemical. He joined the company in 1936 as sales manager of fine chemicals and was named to his present post in 1955.

★

Purex Appoints McLoud

Appointment of Bruce H. McLoud as staff assistant in the sales division of Purex Corp., Ltd., South Gate, Calif., was announced recently by Robert F. Sharp, vice-president and general sales manager. Mr. McLoud previously had served with Procter & Gamble Co., Cincinnati, and more recently with Booz, Allen and Hamilton, New York management consultants.

★

Record Toilet Goods Sales

Sales of shaving preparations, perfumes, cosmetics and other toilet preparations, excluding toilet soaps, reached a record high in 1956, according to figures recently released by the Toilet Goods Association, Inc., New York. Retail sales for 1956 totaled $1,321,000,000, an increase of 10.8 per cent over the 1955 figure of $1,192,200,000.

While virtually all product classifications reported increases, shaving preparations showed one of the largest gains. These products rose in sales more than nine per cent with aerosols accounting for a large portion of the increase. The TGA report also revealed that food stores accounted for 19.1 per cent of all 1956 sales in retail outlets. This was the only classification of store to report a gain last year. Chain and independent drug stores, however, maintained their lead as the largest outlet with 29.3 per cent of retail sales. This compares with 29.1 per cent in 1955.

★

Ritell in New Post

Henry L. Ritell has been named eastern sales representative for the chemical division of General Mills, Inc., Minneapolis, it was announced recently by Alfred G. deMeurisse, New York district sales manager. In his new post, Mr. Ritell will represent the firm's fatty acids, fatty methyl esters, sterols, polyamide resins, and fatty nitrogen compounds. He formerly served as sales representative with Victor Chemical Works, Chicago. Prior to that he was associated with Heyden Chemical Corp., New York, and Lederle Laboratories Division of American Cyanamid Co., Pearl River, N. Y.

At the same time Mr. deMeurisse also announced the appointment of Frank J. McNamara as eastern sales representative. His duties will be similar to those of Mr. Ritell. Prior to joining General Mills, Mr. McNamara was associated with Fritzsche Brothers, Inc., New York, as sales representative.

H. Ritell



F. McNamara



PICCO Names Morgan

Pennsylvania Industrial Chemical Corp., Clairton, Pa., recently announced the addition of



Donald B. Morgan

Donald B. Morgan to its New Orleans sales staff. Since joining the company in August, 1955, Mr. Morgan has served in the technical services department.

★

Crag Department Moves

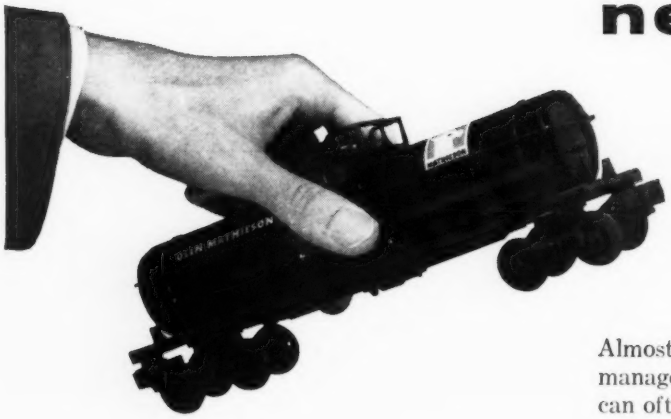
Crag Agricultural Chemicals Department of Union Carbide and Carbon Chemicals Co., New York, has moved its sales and development offices to 180 South Broadway, White Plains, N. Y., it was announced recently.

★

Colgate Advances Two

William T. Miller, vice-president and general manager of the household products division of Colgate-Palmolive Co., New York, last month announced the appointments of Franklin B. Satterthwaite and Walton E. Hayman as market research manager and manager of the Kansas City, Mo., division, respectively.

Mr. Satterthwaite joined C-P in 1955 as market research manager of soap products. Prior to that, he had been market research manager of Carter Products Co., New York, and B. T. Babbitt, Inc., New York. Mr. Hayman will be in charge of the company's soap and detergent sales in Missouri, Kansas, Oklahoma, Texas, Nebraska, Colorado and Iowa, as well as portions of

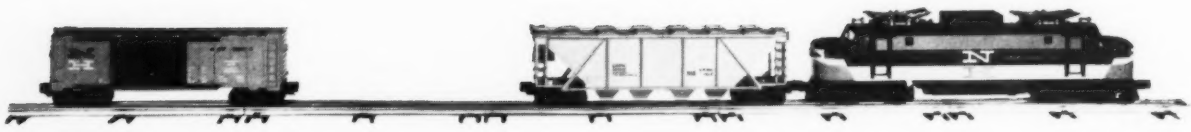


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4682

Wyoming, South Dakota, Arkansas and New Mexico. He joined Colgate in 1921, became Baltimore district manager in 1923, and successively served as district manager in Buffalo, Philadelphia and New York.

★

William H. Shields Retires

William H. Shields, assistant director of research for Emery Industries, Inc., Cincinnati, last month announced his retirement. Mr. Shields joined Emery in 1925 in the research department. During the 1930's he was transferred to sales and served at the firm's New York and Charlotte, N. C. offices. He returned to research in 1941 and two years later was appointed assistant research director. Mr. Shields directed the planning and construction of Emery's Twitchell Memorial Laboratories, which were dedicated in 1955.

★

Ralph H. Given Dies

Ralph H. Given, 69, who retired in 1953 after 42 years as accountant with Colgate-Palmolive Co., New York, died May 20 at the Orange Memorial Hospital, Orange, N. J. Mr. Given was a resident of East Orange. Surviving are his wife, Mrs. Ophelia Bassett Given; a daughter, Mrs. Ethan Allen Stewart, Jr. of Cincinnati; and a brother, Robert Given of Glen Ridge, N. J.

★

Dow Grants License

Dow-Corning Corp., Midland, Mich., has licensed Refined Products Corp., Lyndhurst, N. J., to manufacture its "Syl-mer" silicone emulsions for use in textile production. In accordance with the agreement, Refined Products may also utilize the "Syl-mer" name and identifying trademark in association with its own silicone finishes supplied to mills and finishers also licensed by the Midland company.

Refined Products produces silicone emulsions under the trade names of "Perma Silene" and "Perma Par W," as well as resins, wetting agents, scouring agents, softeners and water repellents.

Shulton Elects Richard Dey

Election of Richard A. Dey to the board of directors of Shulton, Inc., Clifton, N. J., was announced



Richard Dey

recently. Mr. Dey is Shulton's director of industrial and public relations. He joined the company in 1944 as personnel manager, became director of industrial relations in May, 1955, and was named to his present post in January of this year. Prior to joining Shulton he was associated with General Motors Corp.

★

Nopco Scholarship Award

The Charles P. Gulick Scholarship, awarded annually by Nopco Chemical Co., Harrison, N. J., to a son or daughter of a Nopco employee, has been won by Charles A. Zebeau, Cedartown, Ga., it was announced recently. Established last year in memory of the late Charles Platt Gulick, founder of Nopco, the scholarship has a value of $750 per year for four years at the college of the recipient's choice.

★

P&G Scholarships

Procter & Gamble Co., Cincinnati, recently announced details of its 1957 educational aid program. As part of the firm's $650,000 annual assistance program 60 scholarships will be granted by 42 liberal arts colleges and 18 by technical and engineering schools. Reportedly P&G has established a "first" by including women's colleges in a corporation's educational grant program.

Each P&G scholarship provides full tuition covering four years of undergraduate studies; allowance for books, fees and supplies, and a $600 yearly unrestricted grant to the educational institution.

The P&G program is a four-year plan, calling for 240 scholarships to be awarded to independent institutions (non-tax supported) from which the largest number of alumni have joined P&G. Each year, colleges will award one-fourth of the scholarships to recipients chosen independently by each institution.

★

Cowles Appoints Swift

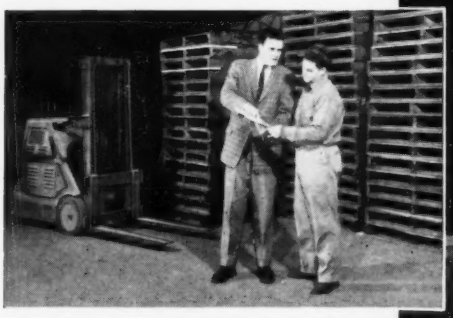
Appointment of William R. Swift as general field service representative of Cowles Chemical Co., Cleveland, was announced recently by Carl C. Clabaugh, manager of the metal finishing chemicals department. In his new post, Mr. Swift will serve as a liaison between the company's research and service laboratories and technical representatives. His duties include service on established Cowles' brands plus field development work on new products.

★

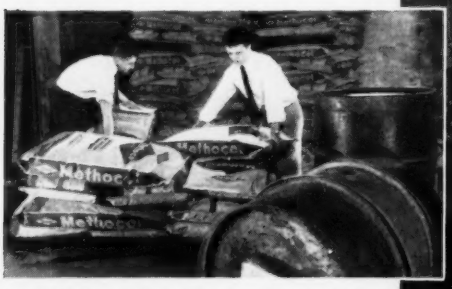
In New Pennsalt Post

Herman J. Eichenhofer has been named area manager of the Wyandotte, Mich., plant of Pennsylvania Salt Manufacturing Co., Philadelphia, it was announced recently by Hugh C. Land, general manager of the industrial division. In his new post, Mr. Eichenhofer will be responsible for the direction of the integrated activities of Pennsalt's East plant and West plant, formerly identified as the Sharples unit.

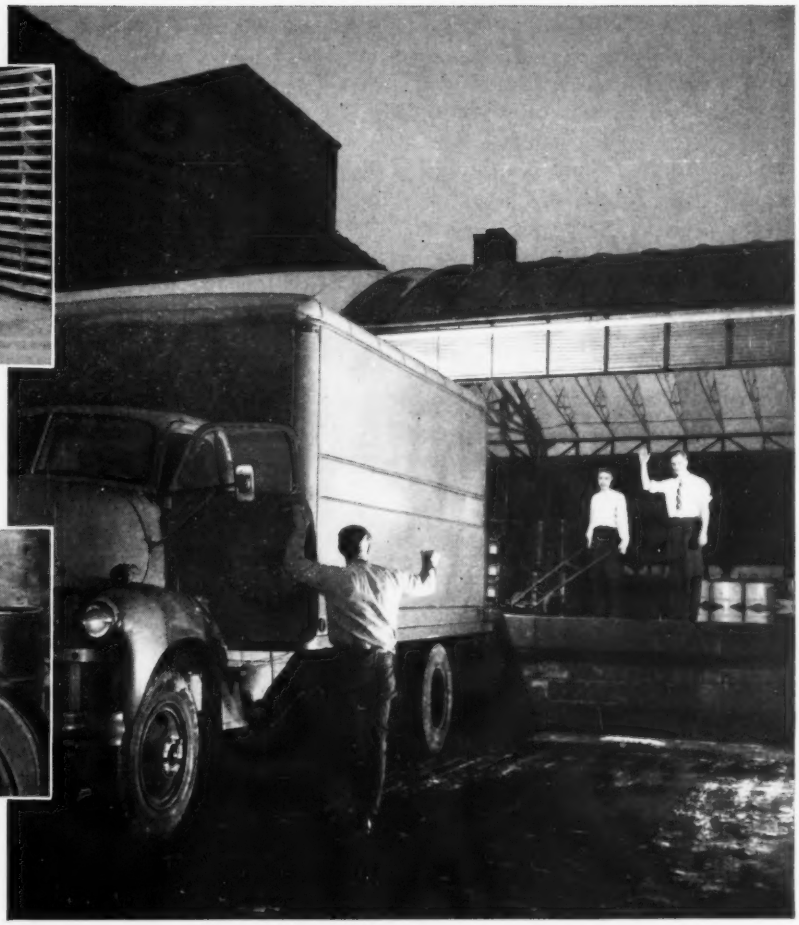
Mr. Eichenhofer joined Pennsalt in 1932 as a foreman at the Wyandotte-East plant. He became assistant plant manager in 1948 and three years later was appointed manager of the company's Cornwells Heights plant. In 1953 he was named superintendent of the Calvert City, Ky., unit and in 1955 returned to Wyandotte as plant manager.



INVENTORY ERROR threatens to halt production at the plant of a large manufacturer in Wisconsin. Unless supplies of two critically needed chemicals are delivered by early evening the second shift will have to be sent home. A long distance call is put through to Merchants' Milwaukee office.



MERCHANTS' WAREHOUSE has been closed for half an hour when the call comes in, but two of the Merchants sales staff volunteer to stay late to help meet the emergency. They load sixty bags and two drums of chemicals onto trucks and flats, ready for pick-up.



AT 8:00 P.M. MANUFACTURER'S TRUCK ARRIVES, is loaded quickly, takes off for a fast return trip. Dinner was late that night for the two Merchants men, but they had been able to help a customer out of a tight spot. That kind of customer service is a tradition at Merchants Chemical.

THEY WERE READY TO SEND THE SECOND SHIFT HOME, UNTIL...

Merchants' Service solved critical supply problem

A distributor, chemical or otherwise, sells service. At Merchants Chemical, service may take the form of emergency accommodation, as in the example cited above; or it may mean experienced technical advice, or special repackaging to help meet a particular production problem. Whatever your need, you'll find that each Merchants office is ready to give your order the special attention it deserves. Merchants serves you from sales offices and stock points across the country. Products offered include acids, alkalis, fungicides, surfactants, chlorinated solvents, emulsifiers, laundry compounds, soaps, dry ice and chemical specialties.

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Diamond Names Gerdes

Appointment of Emil C. Gerdes as manager of commercial products of Diamond Black Leaf Co., Cleveland, was announced recently by George V. Dupont, general manager. Mr. Gerdes replaces James M. Merritt, who recently resigned. Mr. Gerdes formerly was midwestern district manager of farm chemicals. Prior to joining Diamond in December, 1955, he had held a similar position with Geigy Chemical Corp., Ardsley, N. Y.

★

New Dow Corning Plant

Construction of a new plant at Greensboro, N. C., for the manufacture of silicone products was begun recently by Dow Corning Co., Midland, Mich. According to W. R. Collings, president, the new building will also house the newly-established silicone specialties division. Occupying about 35,000 square feet, the plant will initially employ about thirty persons. Completion is scheduled for late summer. Sales and administration offices of the new division will be located at Midland. Products to be manufactured at the Greensboro unit include "Sight Savers," "Shoe Savers," and "4X Compound," for lubricating and sealing automobile ignition systems.

★

Monsanto Names Atkinson

Elliott W. Atkinson has been appointed assistant to Charles Allen Thomas, president of Monsanto Chemical Co., St. Louis, it was announced recently. Mr. Atkinson formerly was vice-president and treasurer of the Lion Oil Co. Division of Monsanto. He joined Lion in 1924. In his new post, Mr. Atkinson will handle special long range projects.

Other Monsanto appointments recently announced include Robert F. Wiesenborn, staff member of the technical services department; William J. Adcock, sales staff of the company's inorganic chemicals division at Cleveland; S. B. Johnson, assistant manager of manufacturing, inorganic chemicals division; and Elerington Saunders and Dr. Edward J. Griffith, scientists in the organic chemicals division.

★

New Armour Texas Branch

A new southern regional office in Dallas, Tex., has been opened by the chemical division of Armour and Co., Chicago, it was announced recently by E. A. Coons, division general manager. C. D. La Susa, previously headquartered in the division's Chicago office, has been named manager of the new branch. The Dallas office will handle sales of the division's complete line of chemicals, including fatty acids, fatty acid derivatives and industrial oils.

★

New C-P Publicity Head

Spencer C. Valmy has been named director of public relations of Colgate-Palmolive Co., New York, it was announced last month by E. H. Little, president and board chairman. Mr. Valmy will head a new public relations department, recently created by the firm to better its relationship with stockholders, employees, suppliers and consumers, and will be responsible for coordinating all public relations and activities of the company. He formerly was vice-president of The Ettinger Co., New York, and prior to that was national press relations manager for Shell Oil Co., New York.

Spencer C. Valmy



Atlas Sales Increase

Atlas Powder Co., Wilmington, Del., recently reported an increase in sales and a decline in income and earnings for the first quarter of 1957. Net sales totaled $16,816,355, as compared with $15,419,348 in the corresponding period of the previous year. Net income in the three months ended Mar. 31 amounted to $928,241, equal to share earnings of $1.23. This compared with $959,853 and $1.28, in the first quarter of 1956.

★

In New GE Silicone Posts

Milton C. Lauenstein and Robert T. Daily have been named respective managers of the Chicago and Los Angeles sales districts of General Electric's silicone products department, Waterford, N. Y., it was announced recently. Mr. Lauenstein formerly was assigned to the firm's Chicago sales office, while Mr. Daily had been attached to the department's Dallas, Tex., headquarters.

★

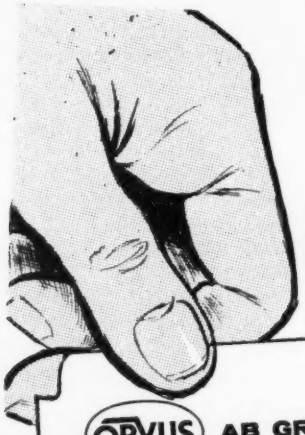
du Pont Profit Up

E. I. du Pont de Nemours & Co., Wilmington, Del., last month reported its net income for the first three months of 1957 at $98,897,480, equal to share earnings of $2.12. In the similar period of 1956, the company reported a net of $94,919,549, equal to share earnings of $2.03. Included in the first quarter net income of both years are $31,500,000 in dividends received on the company's common stock holdings of General Motors Corp.

★

Hooker Earnings Drop

Sales and earnings of Hooker Electrochemical Co., Niagara Falls, N. Y., showed a slight decline in the first quarter of its fiscal year, it was announced recently. Net sales for the three months ended Feb. 28 totaled $25,864,000 compared with $26,092,500 in a similar period a year ago. Net income in the first fiscal quarter fell to $2,192,100, equal to share earnings of 33 cents, from $2,768,100 and 46 cents in the corresponding 1956 quarter.



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ORVUS AB GRANULES

A neutral synthetic detergent, wetting and emulsifying agent of the 40% active sodium alkyl aryl sulphonate type. A white, readily soluble free-flowing light granule, it can be used effectively in the blending of bubble baths, car washes, dishwashing compounds, dairy cleaners, insecticides, laundry detergents, rug and upholstery cleaners, and general maintenance cleaners.

ORVUS WA PASTE

A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium alkyl sulphate. Orvus WA has excellent sudsing, wetting, emulsifying, dispersing and penetrating properties which are well suited for paste and liquid shampoos, bubble baths, liquid detergents, liquid car washes, liquid floor cleaners, insecticides, glass cleaners, rug and upholstery cleaners and for many other liquid cleaners.

AMBER GRANULES

A neutral 88%, 42° titer-type soap of exceptional purity and uniformity. Well suited for the preparation of paste or gel-like products because of its high titer. Its granular form makes it ideal for powdered products. Excellent for the preparation of hand cleaners, paste cleaners, polishes, lubricants and coatings.

Kyro EO

A neutral nonionic synthetic detergent of the 100% alkyl-phenol ethylene oxide condensate type. A light-colored liquid with a clean, pleasant odor. Its superior detergent, wetting and emulsifying properties, plus its compatibility with a wide variety of other products, offer excellent performance in liquid detergents, sanitizer detergents, self emulsifying solvents, automatic laundry detergents, glass cleaners, insecticides, textile cleaners, dairy cleaners and bottle washing compounds.

IVORY BEADS

A medium titer, neutral white soap of exceptional purity and quality. Well suited for compounding products where a mild but effective soap is required —hand soaps, paints, polishes, protective creams, dishwashing compounds and paper coatings.

ORVUS K LIQUID

A modified, highly concentrated ammonium lauryl sulphate—modified for increased sudsing and mildness. Exceptionally low cloud and pour points. Highly fluid and easy to handle. Ideal for clear liquid shampoo and liquid detergents where high foaming is required.

ORVUS ES PASTE

A specially developed synthetic detergent whose active ingredient is mainly modified alkyl sulphate. Offers exceptional efficiency and stability over a wide range of operating conditions. The product's detergent, wetting, penetrating, sudsing, dispersing and emulsifying properties make it excellent for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners, and a wide variety of other products.

Procter & Gamble's Product Research Department will gladly supply you with information on how you can save time and money when you formulate with Procter & Gamble products. You can also get technical help in connection with their use by writing to:

Procter & Gamble

BULK SOAP SALES DEPARTMENT, CINCINNATI 1, OHIO



Pictured at 43rd annual mid-year meeting of the Chemical Specialties Manufacturers Association are: Top Row: Henry J. Brownstein, Hysan Products Co., Chicago, and Sol Epstein, Sol Chemical Co., Chicago. Middle Row: Gene Flack, Sunshine Biscuit Co., Long Island City, N.Y. and Norman Odell, G. M. Basford Co., New York. Bottom Row: Donald B. Bealey and Vincent A. Hall, Reilly Tar & Chemical Corp., Indianapolis, and Mrs. E. D. Sullivan, executive secretary of the Chemical Specialties Manufacturers Association, New York. Held at the Drake Hotel, Chicago, May 20-22, the three-day meeting was one of the largest in the history of the CSMA with a registration figure of 855 and a total attendance of almost 1,100. Highlights of the program included symposia, statistics and simultaneous sessions of the six divisions of which the association is composed. Featured speakers included George M. Busse of International Business Machines, Inc., Poughkeepsie, N.Y., and Thomas B. Curtis, United States Representative from Missouri. CSMA will hold 44th annual meeting at the Hollywood Beach Hotel, Fla., in December.

Continental Sales Record

Continental Can Co., New York, last year had the highest sales and earnings in its history, it was announced recently by Gen. Lucius D. Clay, board chairman. Sales exceeded the billion-dollar mark for the first time, with the inclusion of operations of Hazel-Atlas Glass Co., Wheeling, W. Va., and Robert Gair Co., New York, which were merged into Continental last year.

Combined sales for 1956 amounted to $1,010,300,000, an 8.7 per cent increase over the $929,400,000 volume reported in 1955. Combined net income for the twelve months ended Dec. 31, rose 11.5 per cent to $43,143,000, equal to share earnings of $3.71, from $38,700,000 and $3.46, in 1955.

★

New PVC Filter Fabrics

Commercial production of PVC industrial filter fabrics, was announced recently by Rhodia, Inc., New York. These filters are of 100 per cent polyvinylchloride, in contrast to a coating or emulsion of a polyvinylchloride compound on a textile cloth. They are said to be stable to a large range of organic acids, and to inorganic acids, bases, and salts.

Cosmetic Chems

(*From Page 56*)

from the human skin. This function is distinct from the removal of foreign surface soil. Normally invisible, these secretions are known to be involved in the formation of blackheads, acne and other blemishes. They are exuded by the sebaceous glands, which, although distributed over most of the body surface, are most numerous and largest in the skin of the face and of the upper portion of the body. Of complex composition, the secretion undergoes physical and chemical changes resulting in the formation of solid, waxy plaques which are very resistant to removal. Soaps, as ordinarily used, do not remove these concretions, and organic sol-

ACETATES Amyl, Normal Butyl, Secondary Butyl, Ethyl, Isopropyl, Normal Propyl

ALCOHOLS Normal Butyl, Secondary Butyl, Isopropyl, Methanol, Proprietary Ethyl Alcohol, Normal Propyl

ALKALIES Caustic Soda, Trisodium Phosphate

ALKANOLAMINES Diethanolamine, Di-Tri-Isopropanolamine, Monoethanolomine, Monoisopropanolamine, Triethanolomine

AROMATIC SOLVENTS Benzol, Toluol-Xylol, Heavy Aromatic, SC Solvents #1, 2, 3, 100, 150, and 450

CHLORINATED HYDROCARBONS Carbon Tetrachloride, Chlorothene, Ethylene Dichloride, Methylene Chloride, Orthodichlorobenzene, Perchlorethylene, Propylene Dichloride, Trichlorethylene, Trichlorobenzene

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GLYCOLS Diethylene, Dipropylene, Ethylene, Propylene, Triethylene, Tripropylene

KETONES AND ETHERS C. P. Acetone, Diacetone, A.F. Methyl Acetone, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Ethylene Glycol Ethers, Propylene Glycol Ethers

NAVAL STORES Dipentene, Pine Oil, Terpentine, Gum & S.D. Wood, Rosins, Gum & Wood, Modified Rosins, Resinates, Aliphatic-Hydrocarbons, Heptane-Hexane, Mineral Spirits, Odorless Mineral Spirits, Benzene(VM&P) and other standard and custom Aliphatic-Naphthas.

OILS AND FATTY ACIDS Linseed Oil, Talloil, Talloil Fatty Acids

STEARATES Aluminum, Barium, Calcium, Iron, Lead, Manganese, Magnesium and Zinc

WAXES Emulsifiable, Dip Wax, Paraffin, Plastic Waxes, Sugar Cane Waxes

OTHER PRODUCTS Plasticizers, Weed Killers, Anti-Freeze, Chlorinated Paraffin



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Soap Sales Reverse Trend

Soap sales at the producers' level increased for the first time since 1951 when they rose to a total of 315,076,000 pounds in the first three months of 1957. This represents a gain of one per cent over the first quarter of last year, and is 6.5 per cent above the figure for the fourth quarter of 1956.

Figures released late last month by the Association of American Soap & Glycerine Producers, New York, for its member firms also showed a gain in synthetic detergent sales.

Toilet bar soaps seem to be mainly responsible for improved first quarter soap sales by gaining 17 per cent over the first three months of 1956 and 15.9 per cent over the final 1956 quarter. Also helping to boost the soap totals were soap pastes and jellies, which, in the first quarter 1957, registered gains of 10.3 per cent over the corresponding three months of a year ago and 11.3 per cent over the previous quarter. With the exception of soap chips in bulk, sales of which rose 2.1 per cent, other soap products declined in volume.

Combined sales of soaps and detergents advanced to 1,032,550,000 pounds valued at $247,685,000. This is a tonnage increase of 2.6 per cent over last year's first quarter and 12 per cent over the fourth quarter of 1956.

Synthetics accounted for 69.5 per cent of the total plant sales during the first three months of 1957, with sales amounting to 717,474,000 pounds valued at $165,644,000. These figures represent a tonnage increase of 3.4 per cent over last year's first quarter and 14.6 per cent over the fourth quarter. Of all products listed, liquid synthetics have shown the greatest growth, 18.7 per cent over the comparable quarter last year, 17.3 over the last quarter.

Shampoos of all types continued to show a downward trend in the first 1957 quarter, with soap shampoos down 46.5 per cent and detergent shampoos off 9.5 per cent, compared with the first quarter of 1956. However, compared with the previous quarter, detergent shampoos have gained 27.1 per cent, whereas soap shampoo sales were off 45.2 per cent. Shave products, like shampoos, continue to decline. Shaving soap is down 8.2 per cent and shaving cream 6.9 per cent compared with the first three months of last year.

★

New D&O Testing Lab.

Dodge & Olcott, Inc., New York, recently completed construction of a new cosmetic testing laboratory in its main headquarters at 180 Varick St. The new unit is designed for testing perfume ingredients in cosmetics.

Chapin Appoints Johnston

R. B. Chapin Manufacturing Works, Inc., Batavia, N. Y. has appointed The Johnston Co., Pittsburgh, as its sales representative in western Pennsylvania and West Virginia, it was announced recently. Chapin manufactures a complete line of sprayers and dusters.

★

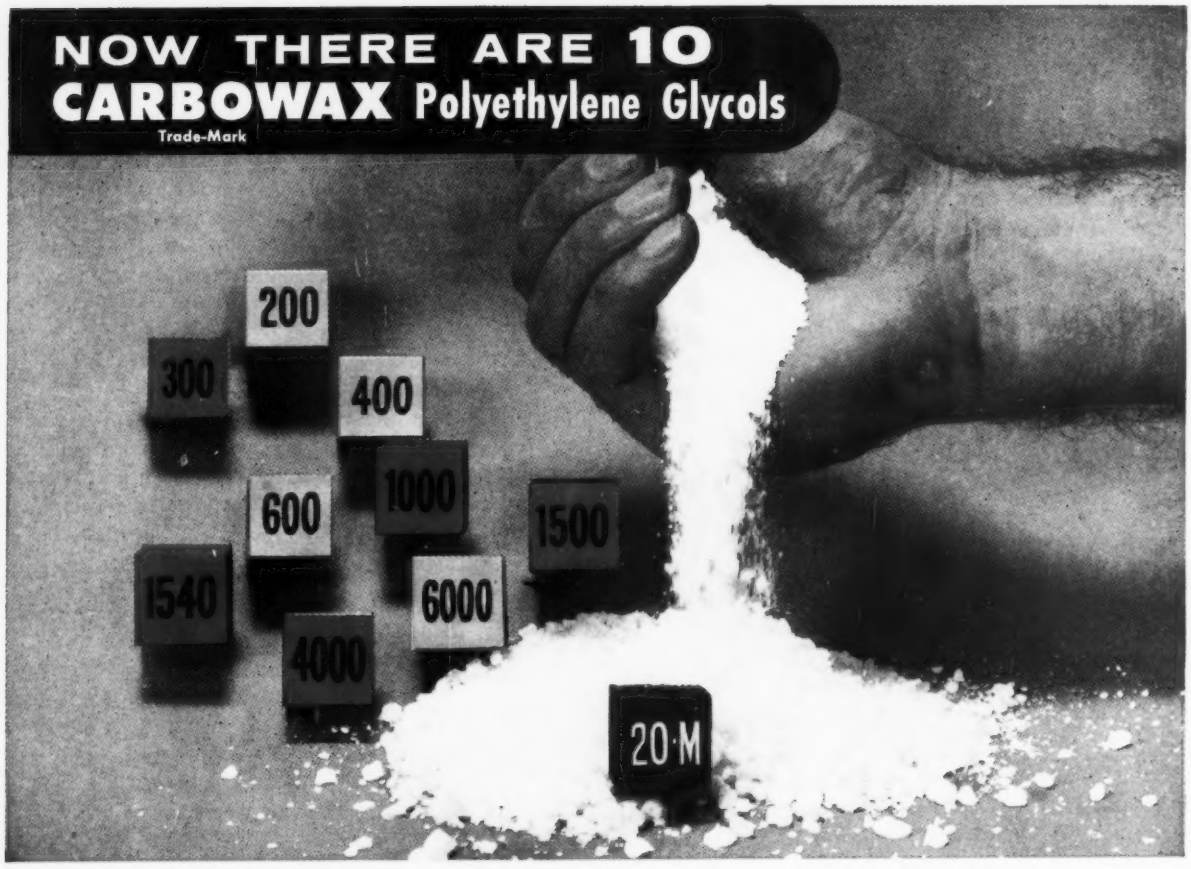
Mrs. Tinker Retires

Mr. Tess Tinker, assistant secretary to the president of Shulton, Inc., Clifton, N. J., retired on June 1, it was announced recently. Mrs. Tinker, who in recent years also had supervised the company's private label soap business, served with Shulton for 21 years.

First Quarter Soap and Detergent Sales

	First Quarter			
	Dollars		Pounds	
	1957	1956	1957	1956
Soaps other than liquid	307,709,000	304,078,000	80,438,000	72,511,000
Liquid soaps	7,367,000	8,136,000	1,603,000	1,604,000
Total	315,076,000	312,214,000	82,041,000	74,115,000
Bar toilet soaps, incl. mechanics	134,881,000	115,239,000	44,334,000	35,072,000
Yellow and other than white laundry bars	12,371,000	11,879,000	1,410,000	1,470,000
White laundry bars	38,529,000	43,554,000	7,228,000	7,651,000
Soap chips and flakes, pkgd.	12,696,000	16,350,000	4,209,000	4,491,000
Soap chips and flakes, bulk	25,911,000	25,366,000	3,106,000	3,028,000
Soap granulated, sprayed, pkgd.	46,119,000	51,736,000	12,473,000	12,723,000
Soap, granulated, sprayed, bulk	21,810,000	22,559,000	2,606,000	2,611,000
Washing powders, pkgd.	700,000	1,105,000	104,000	113,000
Washing powders, bulk	3,133,000	4,043,000	275,000	336,000
Hand pastes	1,078,000	1,337,000	123,000	172,000
Hand powders	1,924,000	2,012,000	313,000	338,000
Paste and jelly soaps	4,017,000	3,642,000	529,000	496,000
Shaving soaps	788,000	858,000	522,000	567,000
Shaving creams	3,358,000	3,605,000	3,136,000	3,330,000
Liquid soaps, other than pkgd. shampoos	898,000*	974,000*	1,394,000	1,274,000
Soap shampoo, liquid, pkgd.	23,000*	43,000*	209,000	330,000
Misc. or other soaps	394,000	793,000	70,000	113,000
Detergents, solid	641,482,000	630,134,000	137,078,000	124,510,000
Detergents, liquid	75,992,000	64,008,000	28,566,000	26,686,000
Total	717,474,000	694,142,000	165,644,000	151,196,000
Detergents, solid, other than shampoo, pkgd.	568,445,000	555,732,000	128,337,000	115,215,000
Detergents, solid, other than shampoo, bulk	69,733,000	70,647,000	6,646,000	6,757,000
Detergents, liquid, other than shampoo, pkgd.	7,985,000*	6,949,000*	24,299,000	22,792,000
Detergents, liquid, other than shampoo, bulk	1,293,000*	821,000*	1,576,000	1,127,000
Detergent shampoos, liquid	1,768,000	1,848,000	2,691,000	2,767,000
Detergent shampoos, solid	3,304,000	3,755,000	2,095,000	2,538,000

*Expressed in gallons.



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CARBOWAX polyethylene glycol 20-M gives you new opportunities to use this versatile series. Because of its higher molecular weight, its melt and solution viscosities are higher, films formed from it are harder and stronger, and its lubricating action is greater.

Like all members of the series of CARBOWAX polyethylene glycols, 20-M is water-soluble, heat stable, and inert to many chemicals. And it has the binding and suspending properties characteristic of the series. Try 20-M in applications where mild thickening action and suspending power are desired, and as a rubber release agent where intricate molds require a more viscous lubricant.

CARBOWAX polyethylene glycols are widely used as solvents, humectants, lubricants, and intermediates. They have become increasingly important as vehicles for medicaments and cosmetics, as mold-release agents, textile lubricants, softeners, antistatic and conditioning agents, and as intermediates for surfactants and synthetic resins.

With the addition of CARBOWAX polyethylene glycol 20-M, the series has a molecular weight range of 200 to 20,000. The individual products vary in physical form from liquids through soft semi-solids to hard waxes.

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vents such as acetone, chloroform, etc., are without apparent effect. Cleansing creams, cold creams, some surfactants, polyethylene glycol, and certain oils are effective to varying degrees.

Paul G. I. Lauffer, House of Tangee, Long Island City, N. Y., presented a paper entitled "Some New Keys to Cosmetic Chemistry — 1956." Advances in medical, biological, and biochemical knowledge during the past year have supplied great impetus to the cosmetic sciences. New analytical methods have helped the cosmetic chemist to acquire new knowledge and to re-evaluate known facts.

Techniques for solving problems were divided into three broad classifications by Derek E. Till, Arthur D. Little, Inc., Cambridge, Mass., who spoke on "Problem Solving; Some Thoughts on Methods and People." Theoretical approach, experimental approach, and operational creativity were Mr. Till's main classifications. He outlined the typical backgrounds and personality traits of workers in each of these fields and offered observations on the manner in which the groups communicate.

Charles A. Dittmar, B. F. Goodrich Chemical Co., Akron, O., reported on recent work done with "Carbopol 934" in a paper entitled "A New Water Soluble Polymer for Cosmetic Compounding" (see "New Thickener for Glycerine," by Louis Cohen, B. F. Goodrich Chemical Co., *Soap and Chemical Specialties*, Nov. and Dec. 1956). A high molecular weight acid polymer, "Carbopol 934" forms highly viscous gels when neutralized to a salt. The high viscosity imparted by this thickener is pseudoplastic, which means that it has low viscosity at high shear rates and high viscosity at low shear rates. These gels also have high yield strength which enables them to suspend solids and stabilize emulsions with apparently low viscosity. This property is particularly useful in the formulation of lotions. Work is currently being done to use "Carbopol 934" as a combined emulsifier and emulsion stabilizer by making a salt of the polymer with an oil soluble amine. "Carbopol 934" acts as a humectant with a somewhat more constant moisture content at varying humidity than some other commonly used humectants. It is also resistant to degradation by bacterial effects or chemical hydrolysis.

"Some New Considerations About the Chemistry of Acne Vulgaris" was the title of a talk by Dr. Thelma Golub Warshaw, New York Infirmary. Dr. Warshaw advanced the view that acne was largely due to emotional stress and its physical manifestations, such as perspiration. Her views were questioned in a lively discussion by Dr. Emil Klarmann and Dr. Peter Flesch.

The Annual Special Award of the Society of Cosmetic Chemists for outstanding scientific literature went to two Britons this year. At luncheon Sabbat J. Strianse, president of the society, presented the $1,000 award to A. J. P. Martin, Nobel Prize winner in chemistry, and to his colleague A. T. James for their publications on gas-liquid chromatography. Stanford Moore of the Rockefeller Institute gave an address describing the significance of their work.

According to the report of the society's literature review committee recommending the two British scientists for the third annual special award "gas-liquid chromatography opens the way to basic information concerning the composition of natural products and processes. Martin and James have applied it to the study of fatty acids, amines and hydrocarbons. It shows great promise as a tool in cosmetic research and has already contributed to advances in technology."

Dr. Martin won the 1952 Nobel Prize jointly with Dr. Richard L. M. Synge for the development and application of partition chromatography. He heads his own scientific organization, is Fellow of the Royal Society and holds the Berzelius Gold Medal of the Swedish Medical Association.

Dr. James works at the National Institute for Medical Research. He was formerly associated with Dr. Synge at Lister Institute and joined the National Institute in 1950 to cooperate on studies by Dr. Martin.

Van Ameringen

(*From Page 52*)

In his younger days, he always loved a game of poker with a few close friends. Usually, he did pretty well at the game. And it was his custom when in the midst of a good winning streak to ride his competitors. Among his pet expressions as he raked in the money was "and they call me Sucker Van!" Van was not reluctant upon occasion to risk a dollar or two at the race track, having something in common here with the chairman of America's largest soap company. When he played golf some years back, he was known for betting on everything in the game possible to bet on except the direction of the wind.

One of the best stories about Van as a salesman is told about the occasion when he sold one of the leading soap producers on replacing the natural perfume oils in their nationally-selling toilet soap with aromatic chemicals. To his surprise, they agreed to make the switch sooner than Van had expected and when they told him the quantity of perfuming material required on initial order, he came close to swooning. It was five or six times what he had anticipated. He had made the sale, now all he had to do was deliver the goods. The product was amyl cinnamic aldehyde. He returned to his office and the plant went to work—nights, Saturdays, Sundays, holidays, for over a month. But they made the deliveries and Van wiped the sweat from his brow.

Van's only son, Henry, joined the firm in June, 1954, following his graduation from Georgetown University.

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Puritan Names Robinson

William F. Robinson has joined Puritan Chemical Co., Atlanta, Ga., as sales promotion director, it was announced recently by Ted V. Fisher, vice-president of marketing. In his new post, Mr. Robinson will be in charge of the company's sales promotion, advertising and public relations activities. He will also serve as director of merchandising. Mr. Robinson formerly was public information officer for the Port of New Orleans.



William F. Robinson

★

Morton Joins Diamond

Carlyle G. Morton has joined the silicate, detergent and calcium division of Diamond Alkali Co., Cleveland, it was announced recently. In his new post, Mr. Morton will be in charge of technical services to the laundry industry. Previously he had held a similar position with Swift & Co., Chicago.

★

New CSMA Proceedings

Proceedings of the 43rd annual meeting of the Chemical Specialties Manufacturers Association are now available, it was announced recently by the association's secretary, H. W. Hamilton. The 236-page paper bound volume includes all available papers presented at the meeting, as well as committee reports and other business transacted. The meeting was held Dec. 3-5, 1956, at the Mayflower Hotel, Washington, D. C.

CSMA mailed a copy to each registrant at the meeting. Additional copies may be obtained from the Chemical Specialties Manufacturers Association, 50 East 41st Street, New York 17, N.Y. Price is $7.50 per copy in the United States; $8.00 in foreign countries.

★

MCA Safety Data Sheet

Publication of a new safety data sheet on hydrocyanic acid, was announced recently by the Manufacturing Chemists' Association, 1625 Eye St., Northwest, Washington 6, D. C. The booklet gives properties and essential information for the safe handling and storage of hydrocyanic acid, including material waste disposal, medical management and employee safety. Copies of the booklet may be obtained from MCA for 30 cents each.

★

Lever Acquires "All"

Lever Brothers Co., New York, late last month announced acquisition of the trademark and franchise to market the synthetic controlled suds detergent "All," from Monsanto Chemical Co., St. Louis. Financial terms of the transaction, which was described as a working agreement, were not disclosed.

In addition to "All," Lever is also taking over marketing of "Fluffy All" and "Dishwasher All." The company previously had marketed a controlled suds detergent, "Jim," not now marketed.

Monsanto said that it was withdrawing from the sale of detergents in the consumer field. It will, however, continue manufacture of these products. The company also announced that it will close its Columbus, O., detergent plant about July 1. Manufacture and packaging of the "All" line will be shifted to its Trenton and Kearny, N. J., units. Consolidation of production close to the product's raw material site, was the reason given for the transfer. Monsanto acquired the Columbus plant when it took over operation of Detergents, Inc., Columbus, a detergent and water softener firm, in January, 1954.

Barbier to New York

Andre Barbier, director of research and production of basic cosmetic materials for L. Givaudan and Cie, S.A., Geneva, Switzerland, arrived in the New York last month to confer with directors of Givaudan-Delawanna, Inc., New York, a subsidiary of the Geneva concern. While in New York, Dr. Barbier, who had spent the previous four weeks on a business trip to Argentina and Brazil, attended the annual meetings of the Toilet Goods Association and the Society of Cosmetic Chemists. Also in attendance at the meetings was Andre Givaudan, a director of the parent organization, who was on his semi-annual visit to this country. Mr. Givaudan left for Germany immediately after the SCC program.



Andre Barbier

★

New Dow Plant

A new plant for the production of ethylenediamine has begun operation at the Texas Division of Dow Chemical Co., Freeport, Tex., it was announced recently. The product is used in manufacture of fungicides, polyamide resins and chelating agents. According to Donald Williams, Dow's vice-president and director of sales, the new unit will produce ethylenediamine at a concentration of 92 per cent or greater, a substantial increase over the concentration previously available from the company. It will also produce diethylenetriamine and triethylenetetramine.



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Armour Licenses Glidden

Armour and Co., Chicago has licensed The Glidden Co., Cleveland, to utilize its patents for fractional distillation of crude tall oil. Glidden will process the oil at a plant now under construction at Port St. Joe, Fla. The Glidden license is the seventh to be granted under these patents in the United States, five of these being in the tall oil field. Two foreign companies are operating under similar licenses.

—★—

Alco Names Porthouse

C. R. Porthouse has been elected to the board of directors of Alco Oil and Chemical Corp., Cleveland, it was announced recently by William H. Coleman, board chairman. He replaces Frank Taplin, who recently resigned. Mr. Porthouse is president and director of Pyramid Rubber Co. and Harcourt Manufacturing Co., both of Ravenna, O., and Oil City Glass Co., Oil City, Pa.

—★—

Shankweiler in New Post

Fred K. Shankweiler has been named sales director of the cellulose products department of Hercules Powder Co., Wilmington, Del., it was announced recently by Elmer F. Hinner, department general manager. Mr. Shankweiler formerly was sales director of the department's coating materials. He succeeds Werner Brown, who recently was named assistant general manager of the cellulose products.

—★—

Naves Honored

Yves-Rene Naves, director of research of L. Givaudan & Cie, S.A., Geneva, Switzerland, parent company of Givaudan-Delawanna, Inc., New York, recently received honorary membership in the Comitato Italiano di Estetica e Cosmetologia (Italian Committee of Aesthetics and Cosmetics). According to the announcement, Dr. Naves was chosen for the award in recognition of his outstanding work in the fields of essential oils, synthetic aromatics and related products.

Seeks U. S. Affiliation

Snap Manufacturing, Ltd., Montreal, producers of powdered, liquid, paste and waterless hand cleaners, detergents and industrial cleaners, recently announced its desire to enter into a working agreement with a U. S. firm for the manufacture of related products in Canada. The company reportedly has facilities available for added production and is interested in contacting an American company similar to its own which presently is exporting to Canada. Snap has indicated that it has facilities to manufacture metal cleaning compounds, floor cleaning, or scouring powder compounds, etc. A brief outline of the firm's proposal is available for review on loan from the Investment Development Division, Bureau of Foreign Commerce, U. S. Department of Commerce, Washington 25, D. C. Interested firms can also correspond directly with the company, 9680 St. Lawrence Blvd., Montreal 12, Canada.

—★—

Hooker Elects Dennis

Frank W. Dennis has been elected a director of Hooker Electrochemical Co., Niagara Falls, N.Y., it was announced recently. He succeeds J. H. Babcock, who retired on May 1. Mr. Dennis, who is also vice-president of industrial relations, joined Hooker in 1916 as assistant time-keeper. He subsequently served as assistant employment manager and was named director of industrial relations in 1950. He was named to his present post in 1953.

—★—

New Emery Subsidiary

Emery Industries, Inc., Cincinnati, recently announced formation of a wholly-owned subsidiary, Emery Industries, Ltd. of Canada. The new firm has taken over the land, buildings, manufacturing facilities and existing fatty acid business of S. F. Lawrason & Co., London, Ontario. Lawrason has been a producer of fatty acids in Canada for more than 75 years.

The subsidiary will operate under the management of R. T. Hull, associated with Emery for many years in sales, product management and sales management capacities. In addition to fatty acids, the firm will manufacture "Sanitone" dry cleaning compounds and textile chemicals. Lawrason will be retained as exclusive sales agents for all Emery products, except "Sanitone," in the Dominion.

New Jefferson Sales Office

Jefferson Chemical Co., Houston, Tex., has opened a new Cleveland sales office at 802 Fidelity Building, it was announced recently by D. L. Griswold, general manager of marketing. At the same time, it was also announced that R. J. Robinson has been named resident salesman and will report to K. L. VanderVoort, Chicago district sales manager.

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Monsanto Price Rise

Monsanto Chemical Co., St. Louis, has increased the price of its dicalcium phosphate dihydrate and disodium phosphate dihydrate 25 cents per hundred pounds, while the price of its dicalcium phosphate, anhydrous, and calcium pyrophosphate has been raised 30 cents per hundred pounds, it was announced recently by Tom K. Smith, Jr., marketing director of the inorganic chemicals division. The new rates will increase the price of dentifrice grade dicalcium phosphate dihydrate to $7.85 per hunderd pounds, in carload amounts, from $7.60. Food grade dicalcium phosphate, anhydrous, will rise to $9.30 per hundred pounds, in carload quantities, from the previous price of $9.00.

★

Brillo Earnings Higher

Income and earnings of Brillo Mfg. Co., Brooklyn, N. Y., showed a substantial increase during 1956, it was announced recently.

Concannon Retires

Charles C. Concannon, chief of the chemical division of the Bureau of Foreign and Domestic Commerce for 28 years, retired recently because of ill health. At the time of his retirement he was a consultant on international affairs to the chemical and rubber division of the Business and Defense Services Administration.

Mr. Concannon was appointed to the Bureau of Foreign and Domestic Commerce in 1922 by Herbert Hoover, then Secretary of Commerce. He organized the chemical division and served as its chief until 1950 when the National Production Authority was established. Thereafter he served as consultant to NPA on international affairs working with the agency's industrial advisory committees. Among Mr. Concannon's numerous assignments abroad was a survey of chemicals producing countries in Europe in 1923, and several surveys of South American resources and markets. On loan from Washington he served as adviser to the governments of Chile and Peru. He was U.S. delegate to the International Labor Organization in Geneva and in 1955 chief of our trade mission to Pakistan.

Mr. Concannon authored numerous books and articles pertaining to chemicals, economics, and foreign trade. On his retirement he was presented with a memory book containing 64 letters of appreciation from friends in the chemical industry and government.

★

New Bobrick Dispenser

An improved model of its liquid soap shower dispenser, model 17CP, was introduced recently by Bobrick Dispensers, Inc., Brooklyn, N. Y. The redesigned dispenser features continuous soap flow when the valve piston is held open. It has a five quart capacity, is copper and nickle plated inside and out with a chrome plated exterior. Model 17CP, which can be locked to the wall, is designed for use in schools and commercial installations.



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H-27

Becco Sales Changes

A series of changes in its sales department was announced recently by Becco Chemical Division of Food Machinery and Chemical Corp., New York. According to Dewey H. Nelson, Becco sales manager, Matthew A. Noonan has been appointed New York district manager, while Edward M. Roth has been named as his assistant. Mr. Noonan, who joined Becco in 1936 in the research department, has been manager of the Philadelphia district for the past ten years. In his new assignment, Mr. Noonan will be responsible for both the New York and Philadelphia districts, which were recently consolidated. Mr. Roth joined Becco in 1948 in the research department. For the past two years he has served as a field representative in New York.

It was also announced by Mr. Nelson, that Paul U. Bretschger has been appointed manager of the western New York state district. This territory also includes parts of western Pennsylvania. Mr. Bretschger, who joined Becco in 1949, was formerly a field representative in the western New York district. Other sales appointments include Eugene M. McMahon, Philadelphia office; George J. Motz, New York office; Richard T. Mould, Chicago office; and Bruce J. Bishop, Charlotte, N. C., office.

★

Monsanto Sales Changes

The following sales appointments were anounced recently by Monsanto Chemical Co., St. Louis:

Charles A. Leonard has been appointed to handle sales of farm chemicals of the organic chemicals division in a 13-state eastern territory. Mr. Leonard formerly was farm chemicals sales representative.

J. Paul Ekberg, Jr., formerly manager of intermediate chemicals sales, has been transferred to Los Angeles as district sales manager of the organic chemicals division.

Jack C. Hutchison has been named St. Louis district manager of intermediate chemicals sales. Mr. Hutchison formerly was assistant New York district manager of the firm's organic chemicals division.

Charles L. Fetzner, formerly Los Angeles district sales manager of the organic chemicals division, has been transferred to San Francisco where he will work in the same capacity.

Ernest S. Robson has been appointed assistant New York district sales manager of the organic chemicals division. He formerly was San Francisco district manager.

J. Virgil Waggoner has been named raw materials manager of the company's plastics division located at Texas City, Tex. He formerly served that department as assistant sales manager.

R. R. Wilson, formerly assistant New England district manager of Monsanto's plastics division, has been appointed sales manager of the division's Detroit district.

New Dow Terminal

Dow Chemical Co., Midland, Mich., has started construction of a new terminal at Baltimore for the storage and distribution of 50 per cent caustic soda solution, it was announced recently. According to Donald Williams, vice-president and director of sales, the terminal has been in operation since early in April. Company tankers will supply the new unit with caustic soda from Dow's Texas division plant at Houston.

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New Amoco Unit

Amoco Chemicals Corp., Chicago, recently announced that its first major development project will be the construction of the only plant of its type, somewhere in the midwest, for a new hydrocarbon oxidation process to produce aromatic acids from petroleum and raw materials. According to Jay H. Forrester, president, the company will also "invest heavily in research aimed at creating new products for the chemical, plastic and paint industries." Amoco was formed recently through consolidation of three affiliates of Standard Oil Co. (Indiana).

—★—

Girdler Advances Lumpkin

W. Doss Lumpkin has joined the catalyst department of Girdler Co., Louisville, Ky., a division of National Cylinder Gas Co., it was announced recently by Ronald E. Reitmeier, department manager. In his new post, Mr. Lumpkin will specialize in marketing of catalysts employed in processing fats and oils. Mr. Lumpkin, who joined Girdler in 1954, formerly was assigned to the Votator division.

New Nopco Officers

Nopco Chemical Co., Harrison, N. J. has elected four new company officials, it was announced recently by Ralph Wechsler, president.

George H. Faux, formerly company secretary, has been named treasurer. Mr. Faux fills a post vacated by Albert A. Vetter, who recently retired after 38 years with the firm. Others elected include Alfred O. Brookes, secretary; Robert M. Urich, assistant treasurer; and Julius J. Denzler, assistant secretary.

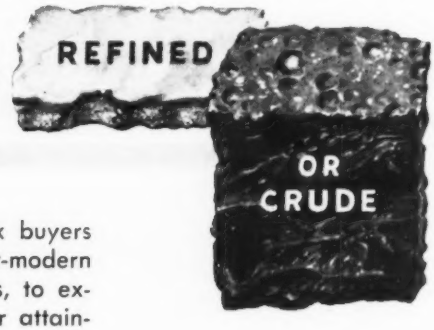
As the Editor Sees It

(*From Page 37*)

home where there are small children, does not alter the responsibility of every marketer of household chemical specialties to make his product as safe as is humanly possible. Aspirin may be the major culprit, but there are still minor ones. Today, it may be aspirin, tomorrow laundry bleach, polish or some other specialty. Who knows?

In every household chemical and drug, there is potential danger to children. Poison centers may be part of the answer, precautionary labeling another part, but we still believe the best means to minimize the danger is education of careless parents via a broad publicity campaign. Manufacturers might well consider the need for such a campaign, well consider it before a legislative hot poker is suddenly applied to the customary spot.

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Wheeler to Alumni Post

J. H. Wheeler, Jr., of Essential Chemicals Co., Milwaukee, recently was elected vice-president of the U. S. Naval Academy Alumni Association. Mr. Wheeler was graduated from Annapolis in 1944, following which he spent several months on active duty aboard a destroyer in the Pacific. Later he resigned his Navy commission to join Essential Chemicals Co., which is headed by his father.

—★—

Wilson Acquires General

Roy Wilson Manufacturing Co., Chicago, has acquired General Soap Co., Chicago, manufacturers of soaps, detergents and washing powders, it was announced recently by Roy L. Wilson, president. Frank Katlin, president of General, has been named vice-president of Wilson, in charge of the General Soap Co. Division.

Manufacturing operations of General will be consolidated at the Wilson plant. To accommodate the increased production, Wilson has leased an additional 15,000 square feet of floor space in its present buildings, giving the company about 35,000 square feet for the manufacture and warehousing of raw materials and finished products in the soap, detergent and allied specialty lines.

—★—

Stone Joins WARF

Phillip V. Stone has been appointed director of the insecticide division of Wisconsin Alumni Research Foundation, Madison, Wis., it was announced recently by Ward Ross, managing director. He succeeds Dr. George S. Kido, who recently resigned. In his new post, Mr. Stone will supervise testing of new insecticide formulations.

Sonic Emulsifiers

(*From Page* 159)

Engineering Corp., 146 Selleck Street, Stamford, Conn., maintains laboratory facilities for the testing of customers' samples and will give further information to interested parties.



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Newest application of plastic squeeze bottle is this ball type, roll-on personal deodorant of Lehn & Fink Products Corp., New York. Bottle is by Bradley Container Corp., a subsidiary of American Can Co., Maynard, Mass. One and one-half ounces of "Etiquet Rolit" deodorant retails for 69 cents.

Squeeze Bottles

(*From Page* 119)

containers.

Today, manufacturers of polyethylene containers are more conscious of the problems of the finished product manufacturer than they were a few years ago. At that time, recommendations for packaging certain products in polyethylene backfired. Because plastic containers were relatively new, they went through a period of trouble like any new product. Products were packaged in polyethylene of the wrong type and some should not have been packaged in polyethylene at all.

Loss of fragrance, bottle wall collapse, stress cracking and per-

Continental Can Co. photo



Continental Can Co. photo





Continental Can Co. photograph

meation of container walls caused many a headache to both product and bottle manufacturers. Product people became skeptical of polyethylene and as a consequence the growth in the use of plastic containers was set back materially. This was particularly noted in the sharp drop in the rate of growth of polyethylene bottles which happened in 1954. Naturally, more research, more pre-testing and shelf testing was the answer to this problem.

Density of the polyethylene used in bottle manufacture is found to have a direct relationship to permeability and loss of fragrance in certain products. The range of specific gravities of polyethylenes used in container manufacture runs from 0.91 to 0.96. The higher the density, the less the permeability. But with higher density comes also a more rigid type squeezable bottle or can. Tests show that 50 per cent of products which permeate bottles of lower specific gravity can be held satisfactorily in those of higher density and that the latter have better heat resistance and are more easily sterilized.

As far as the chemical specialty, cosmetic, detergent and allied manufacturers have an interest in polyethylene bottles, the squeezable function remains important. Naturally, if regular polyethylene pour bottles are available at a price, irrespective of the squeezable function, these manufacturers likewise would be interested mostly because of lighter weight and unbreakability. It is in the regular pour or "carrying" bottles where makers anticipate greatest future growth. But the squeezable function is important because of its diversity of dispensing methods.

A squeeze bottle can dispense a fine mist, a coarse spray or a stream from any angle or it can pull out a powder. Then there is the controlled drop dispenser where exact drop dispensing or precise drop size are required. Then there is the dispensing of creams, shampoos, pastes or any viscous material. All told, plastic bottle makers carry in stock close to a hundred fitments to produce nozzles which will dispense almost any type of liquid, paste, cream or fine powder.

Color is an important adjunct of the polyethylene bottle, can or tube. They are available in almost any color desired, naturally an important merchandising factor. There are thousands of custom colors, colors which may match the product, or the color design of companion packages. Many manufacturers marketing products in squeeze bottles have adopted a wide range of colors including soft pastel shades. The ready printability of polyethylene makes the application of package designs both simple and effective.

Currently, the manufacturers of polyethylene squeeze bottle, "cans" and tubes in the United States include the following: Bradley Container Corp., American Can subsidiary), Maynard, Mass.; Continental Can Co., New York; Imco Container Corp., Kansas City, Mo.; Plax Corp., Bloomfield, Conn.; Royal Manufacturing Co., Prescott, Ariz.; Lamex Division, Foster Grant Co., Manchester, N. H.; Lawrence Plastics Container Co., Philadelphia. Whedon Plastics Co., Mays Landing, N. J.

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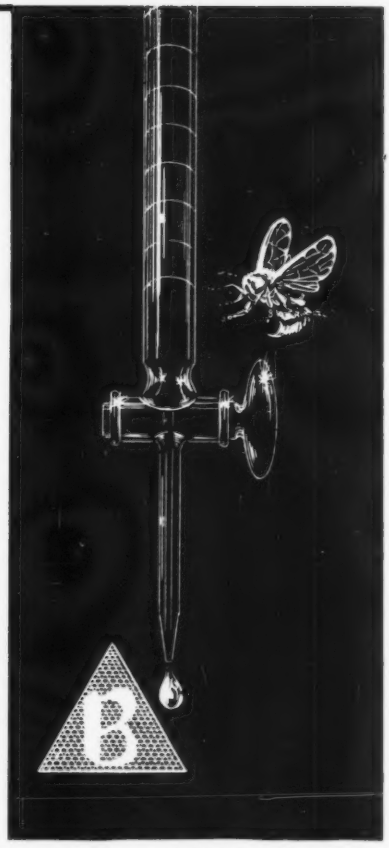
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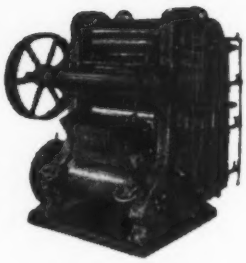
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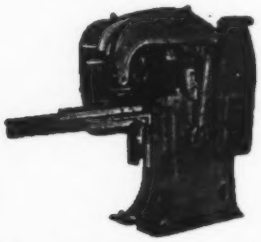
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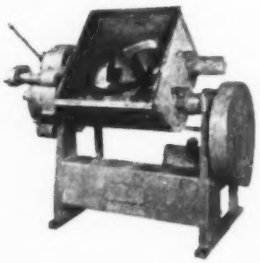


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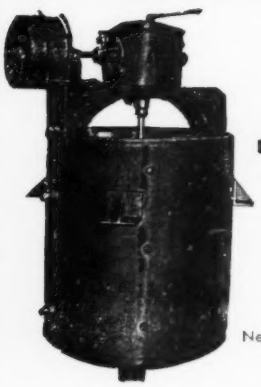
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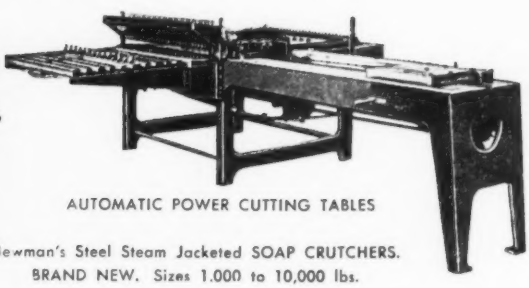
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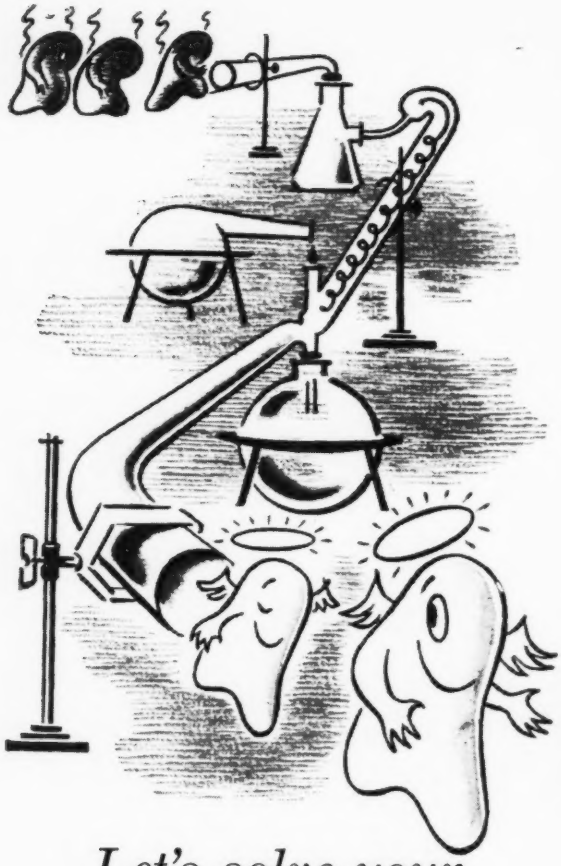
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Chemist: Outstanding experience in chemical specialties, household, cosmetic, industrial and Aerosol formulations, seeks connection with reliable concern offering pleasant and refined surroundings. Address Box 857, c/o *Soap*.

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(*Reference Books see page 204*)

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Available: 64 page listing of "Synthetic Detergents Up-to-Date", (1955). Write John W. McCutcheon, 475 Fifth Ave., New York 17, N. Y.

For Sale: Buffalo 32″x90″ Flaker 1900 gal. jacketed crutchers; ribbon mixers, 336 and 56 cu. ft; Gemco 6′ dia. Conical Blender; (6) double arm sigma blade mixers 2-½, 5, 50, 75 and 100 gal. Perry Equipment Corp., 1410 N. 6th St., Phila. 22, Pa.

Full Up-To-Date Facts on Chemical Specialties. See page 76.

Alcolac Elects Vaughn

Dr. Thomas H. Vaughn has been elected to the board of directors of American Alcolac Corp., Baltimore, it was announced recently by Dr. V. J. Blinoff, board chairman. Dr. Vaughn is executive vice-president in charge of corporate development of Pabst Brewing Co., Milwaukee, Wis. Prior to joining Pabst in January, Dr. Vaughn had been director of research and development of Colgate-Palmolive Co., New York. Previously he had held a similar position with Wyandotte Chemicals Corp., Wyandotte, Mich.

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the mixer side coefficient.

$$h \propto 1/\sqrt{d} \qquad (5)$$

This indicates that the tube should be as small as practical, taking into consideration the pressure drop, ease of cleaning and fabrication.'

Large diameter flow impellers are most effective in heat transfer processes. Pumping capacity of the impeller controls heat transfer.

Blending Processes

BLENDING of several miscible fluids is quite customary in chemical specialties manufacture. While different types of equipment are used in this blending operation, tank size usually dictates the choice of mixer employed.

Normally, for blending a baffled flow pattern is most effective. However, unbaffled mixing may be employed where the viscosity of the fluid and the tank shape permit.

Blending with either top-entering or side-entering mixers may be done in vertical cylindrical tanks. Portable or permanently mounted propeller type mixers are suitable for use on tanks of up to 1,000 gallon capacity and with fluids of 1,000 centipoises or lower (see p. 139). Mixers may be mounted in an angular off-center position to achieve the desired flow pattern. Viscosity of the fluid and blending time determine the power required.

Turbine type mixers are normally used with tanks of over 1,000 gallons (Figure 10). The tanks are equipped with standard wall baffles and in many cases the turbines are one-third the size of the tank diameter. When the liquid level is approximately the same as the tank diameter, the impeller is placed about one-third of the liquid depth from the bottom. If the tank depth is greater than the tank diameter, multiple impellers are often used.

Vertical cylindrical tanks of all sizes may be combined with side-entering mixers (Figure 11). Invariably they are used in large scale blending operations above 20,000 gallons. These mixers can be placed on thin wall tanks without any supporting superstructure. The mixers are economical and by using mechanical seals, stuffing box contamination can be eliminated. Correctly adjusted stuffing boxes, however, can give years of satisfactory service.

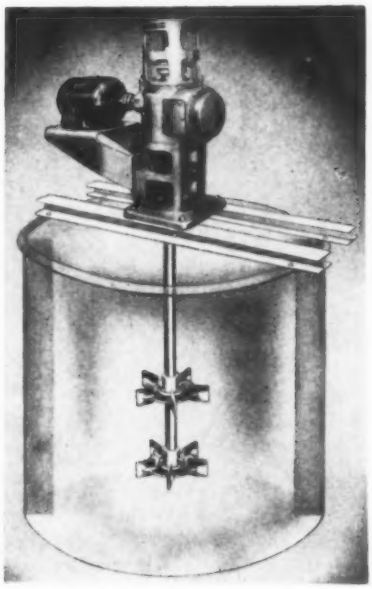
Blending studies (3) have shown that flow is a controlling factor. A large ratio of impeller diameter to tank diameter is more effective than a small one.

As the impeller size increases, the power required decreases. A decreased mixer speed requires an increase in the torque of the drive. The cost of the mixer goes up as the power required drops. The fact that most impeller to tank size ratios in blending processes are between one-quarter and one-half the tank size, is set by a number of considerations, including balancing power cost against initial cost of the mixer.

In the manufacture of many chemical specialties, changes in viscosity may be observed through the system. It is imperative to study such products on a small scale to

(*Turn to Page* 203)

Figure 10. Typical top-entering turbine type mixer unit.



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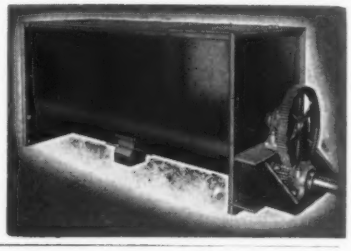
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see what these viscosity peaks may be. By correct readings on a Brookfield viscosimeter, non-Newtonian effects can be observed, and allowances made for these in the design of the mixer. There are two aspects to consider: one being the effect of this viscosity increase on the process performance, and the second being the effect of the viscosity increase on the power drawn by the mixer.

Dissolving of Solids

INCORPORATION of a readily soluble solid in a liquid is no problem. The efficiency and speed of the operation is governed by the pumping capacity of the impeller. Large impellers operating at reduced speeds are most efficient.

A real problem arises in blending solids with a liquid when the solid tends to form a tough film. High fluid shear is required to break this film and for the blending operation to proceed. Pilot plant and laboratory studies may be needed to determine optimum conditions of flow and fluid shear to overcome the formation of such films.

A great deal of power is called for in high shear operations to break up these films, and to complete the blending operation in the prescribed time. Excessive heat may be generated in full-scale plant processing which presents a major problem.

All impeller types give the same process result, whether or not a readily dissolved solid is involved, if the optimum flow to fluid shear ratio is maintained.

(To be concluded)

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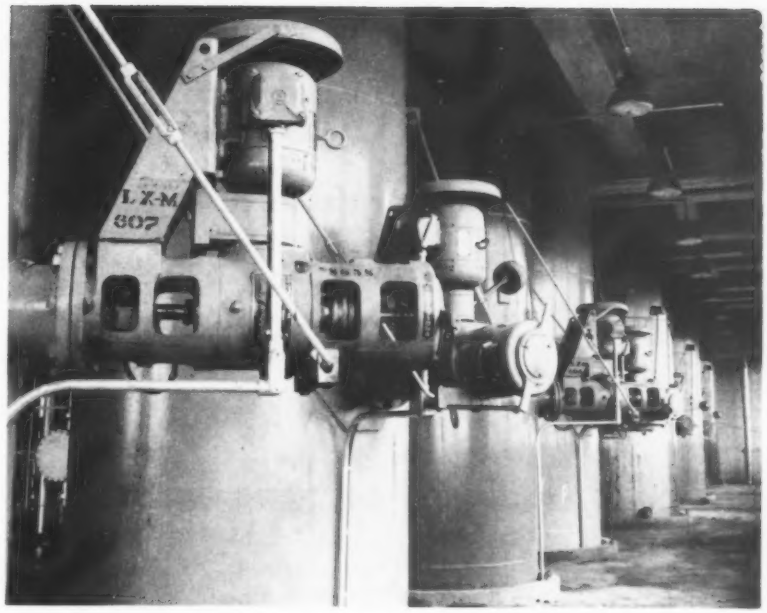


Figure 11. Typical side-entering mixer installation.

★

New Use for "Diazinon"

Geigy Agricultural Chemicals, a division of Geigy Chemical Corp., Ardsley, N. Y., recently announced that its "Diazinon" insecticide may now be used for fly control in food processing plants. The product recently passed U.S. Department of Agriculture requirements for such application. "Diazinon" previously was utilized mainly for fly control in dairy barns and farm buildings. It is available in either a liquid or powdered formulation.

★

New Gallo Sprayer

A new model of its "Fog-Aire" automatic sprayer, designed for use with insecticides, deodorants, disinfectants and fumigants, has been introduced by Gallo Manufacturing Co., Racine, Wisc., it was announced recently. The sprayer, which operates off the exhaust of most milking machines and air compressors, utilizes one to two ounces of spray per minute and sprays in four directions simultaneously. The unit is of solid aluminum casting and is said to be easy to clean. Further information may be obtained from the company, 1312 Forest St., Racine, Wisc.

New Patents

(From Page 149)

DDT containing at least 70%, 2,2-bis-(p-chlorophenyl)-1,1,1-trichloroethane and having a setting point not higher than about 100° C. and in which the BHC is present in the form of a technical BHC containing a gamma isomer content within the range 25 to 50% and melting below 80° C., said mixture containing from about 50 to about 90 parts of said technical BHC for every 10 to 50 parts of said technical DDT and having the property of remaining liquid for several hours when cooled to room temperature after having been heated to a molten state.

No. 2,790,743. Substituted 1,4-Hydroquinone Fungicidal Compositions and Method of Using Same, patented by Nicolaas Dost and Gerarda Francisca Elisa Maria Klap-Dierick, Amsterdam, Netherlands, assignors to Shell Development Co., New York. This patent teaches a method for controlling fungi which comprises subjecting the fungi to the action of a compound selected from the class consisting of the 1,4-hydroquinones of the formula

$$(OH)_2Ar(SR)_n$$

in which Ar represents an aromatic nucleus selected from a hydrocarbon of the group consisting of benzene and naphthalene, each R represents a hydrocarbon radical having up to 10 carbon atoms, and n represents an integer of from 2 to 4, inclusive, and alkali salts thereof.

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Coming Meetings

American Oil Chemists Society, fall meeting, Cincinnati, Sept. 30, Oct. 1 and 2.

Association of American Soap & Glycerine Producers, 31st annual convention, Waldorf-Astoria Hotel, New York, Jan. 22-24, 1958.

Chemical Industries, 26th Exposition, Coliseum, New York, Dec. 2-6.

Chemical Market Research Association, Lake Placid, N. Y., Sept. 16-17.

Chemical Specialties Manufacturers Association, 44th annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Dec. 9-12; 44th midyear meeting, Netherland Plaza Hotel, Cincinnati, May 19-21.

Drug, Chemical and Allied Trades Section, New York Board of Trade, 67th annual meeting, Galen Hall, Wernersville, Pa., Sept. 19-21, 1957.

Grocery Manufacturers of America, 49th annual meeting, Waldorf Astoria Hotel, New York, Nov. 11-13, 1957.

International Sanitation Maintenance Show & Conference, 2nd annual exposition, Navy Pier, Chicago, Oct. 14-16.

National Agricultural Chemicals Association, annual meeting, Essex and Sussex Hotel, Spring Lake, N. J., Sept. 4-6.

National Hotel Exposition, 42nd show, Coliseum, New York, Nov. 11-15.

National Pest Control Association 24th annual convention, Louisville, Ky., Oct. 21-24.

National Sanitary Supply Association, 35th annual convention and trade show, Coliseum, New York, Feb. 22-24, 1958.

National Supermarket Non-Food Exhibit, Shrine Exposition Hall, Los Angeles, August 25-28.

Packaging Machinery & Materials Convention, Convention Hall, Atlantic City, N. J., March 25-28, 1958.

Plant Maintenance & Engineering Show, 9th annual exposition, International Amphitheater, Chicago, Jan. 27-30.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Roosevelt Hotel, New York, Sept. 10, Oct. 8, Nov. 12.

Toilet Goods Association, 23rd annual convention, Poland Spring House, Poland, Maine, June 25-29, 1958.

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Tale Ends

MAYBE detergent makers, as well as chemical specialty folks, should label their products, "Keep away from children." It seems that one Mrs. Tidwell of Columbia, S. C. left her kitchen for a brief back-fence chat with a neighbor. In her absence, Gary Tidwell, her three-year old son, emptied the contents of a full package—the large 79c size—of detergent into the washing machine and turned it on. When Mrs. Tidwell returned to the kitchen, suds were knee deep and were running out onto the back porch. Gary was very wet and very clean.

* * * * *

French Toilet Soap Maker's Assn. is out to break down the resistance of the French hotel industry to supplying free soap to guests. Except in the largest and most luxurious French hostelries, soap in hotel rooms is conspicuous by its absence. Their guests steal the soap, is the plaint of the hotelkeepers, according to Jane Barry writing from Paris for "Soap, Perfumery and Cosmetics" of London. She suggests that manufacturers supply free soap to hotels and charge it to their "gigantic advertising campaigns." Our comments: Maybe the average Frenchman doesn't miss soap in his hotel room—only the foreigners.

* * * * *

Complaints from housewives because soap and detergent packages are not equipped with a small measuring device to cut down waste have been reported by National Family Opinion, Inc. of Toledo. Waste? What soaper truly wants to stop waste of soap? The housewife has always used about double the soap needed for any job. She does the wasting, not the soapers. Why doesn't she simply use less? And even using double quantities, we've never noted that the cost of soap in the average American home was any great strain on the family budget.

* * * * *

A big to-do has been carried on in a few eastern newspapers about spraying a few million acres of the countryside with DDT to kill off the coddling moth which has devastated large areas in New York and New Jersey every year. The newspapers and politicians screamed "poison" everywhere. In spite of the fact that the spray job had the blessing of the U. S. Dept. of Agriculture and the U. S. Public Health Service, the protests were loud and vociferous. It reminded us to some extent of the big stink created by the real yellow-journalism treatment which DDT received in New York some ten years ago.

* * * * *

A museum of shaving equipment has been founded by the Electric Shaver Division of Remington Rand at Bridgeport, Conn. Stone razors used by Indians of Peru more than 30 centuries ago, shave utensils from ancient Rome and Chinese razor coins, all are on display along with more modern tonsorial equipment. The company is out to get further donations to its museum and has offered to swap one of its newest shavers for working models of old mechanized shavers invented prior to 1850. We wonder if the museum will carry any samples of shave soap, shave foam, et al.

The descendants of one female moth will eat more than 100 lbs. of wool in a year, more than the output of 13 sheep. In fact, moths ruin something like 150 million dollars worth of clothes each year in the U.S. These facts were brought out in a real tricky publicity piece recently put out by Dow Chemical — and it goes on to tell how, where and when to use paradichlorobenzene products for effective moth control — and how para also prevents mildewing by killing the spores — and urges year around battle against moths. No mention of Dow, just a neat, concise story for housekeeping editors to pick up. We could stand a lot more of this.

* * *

A trusting guard in a southern penal institution felt that prisoners using the shower room would make no attempt to escape in their birthday suits. However, one prisoner fooled him. While the trusting guard stood outside the door waiting for the prisoner to finish his ablutions, the prisoner soaped himself throughly, managed to squeeze between the bars, and when last seen was fleeing down the street clad in nothing but frothing soap bubbles. Add "New Uses for Soap."

* * *

Fels & Co., Philadelphia, to paraphrase a once-popular song, is "older than it thinks." And by 10 years at that. The Fels' letterhead carries the line "since 1876." Recently, according to the Fels' house organ, "Golden Bar," in rummaging through some old files at the Fels Foundation's office, a medallion was uncovered. The inscription on it reads: "Maryland Institute for the Promotion of the Mechanical Arts, First Prize Award to Fels & Company for fancy soap, 1869." Obviously if the firm were picking up awards in 1869, it must have been established prior to the 1876 letterhead date. Further research into the history of the award now leads Fels to believe its year of origin is 1866. Interestingly, it was 1876 when the Fels family purchased Thomas Worsley Soap works in Famed Combes Alley, Philadelphia. Worsley, incidentally, was established in 1846. Fels, however, chose the 1876 date as its beginning. So, in another nine years or so we expect to have quite a ball on the 100th anniversary of a fine old firm.

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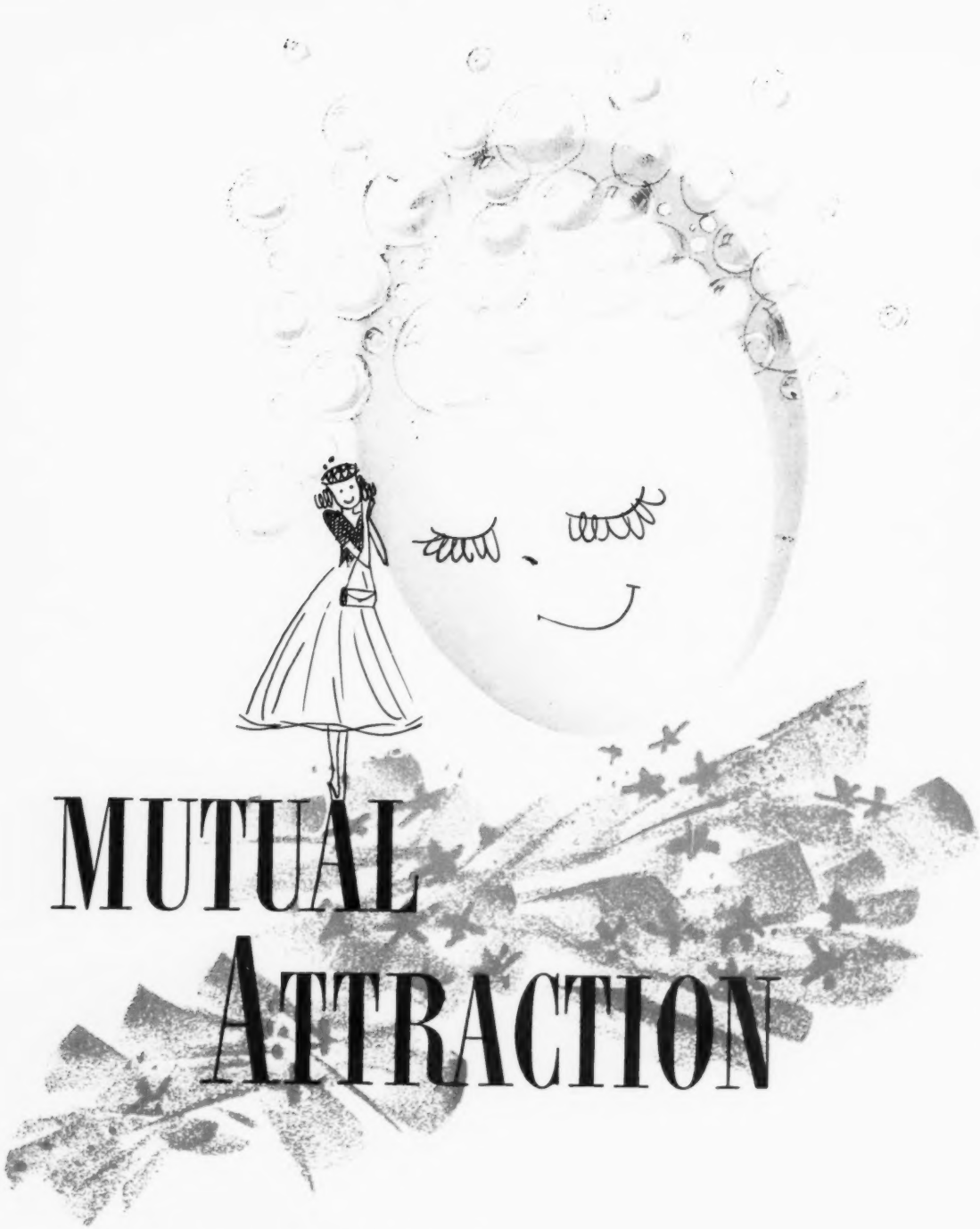


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